JUNE 1925 ~ № 233

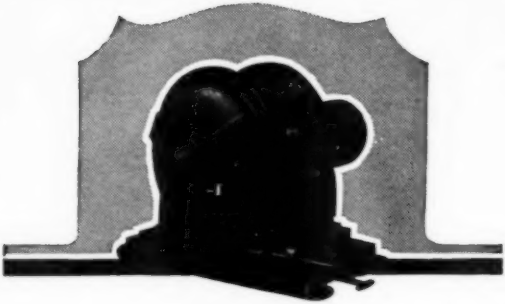
# Monthly

# A Reference for Buyers

[illegible] Lists to Machine Tool
Users Everywhere in the United States and to
Dealers in American Machinery Abroad

Published by
A.H.HITCHCOCK
1220-1235 Caxton Building
Chicago

FOR INDEXES SEE LAST PAGES



# Type A.A. RELIANCE Induction Motors

*are made with—*

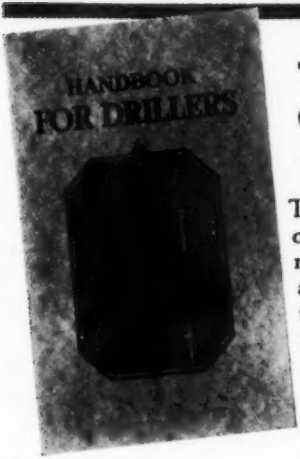
ball bearings
or roller bearings
or sleeve bearings

**Reliance Electric & Engineering Co.**
**1050 Ivanhoe Road, Cleveland, Ohio**

***Branches:***

| | | | |
|---|---|---|---|
| BOSTON | PHILADELPHIA | CHICAGO | CINCINNATI |
| NEW YORK | PITTSBURGH | DETROIT | BIRMINGHAM, ALA. |

*We specialize in motors, sizes 1/2 to 200 h. p. constant and adjustable speed D. C.; squirrel cage and slip ring A. C.*




# The A-B-C of Good Drilling Practice!

Thousands of copies of this booklet are mailed out annually, all over the world, to men and boys interested in knowing the "why" as well as the "how" of twist drills and drilling.

May we send you a copy? It costs you nothing but a postcard and puts you under no obligation.

*Just ask for the "Handbook for Drillers."*

The CLEVELAND TWIST DRILL COMPANY CLEVELAND NEW YORK·CHICAGO·LONDON

TRADE MARK REG. U. S. PAT. OFF. AND FOREIGN COUNTRIES

***Manufacturers, also, of***

Carbon and High Speed Drills for every purpose; "Mezzo" Super-Carbon Drills; Hand, Jobbers' and Shell Reamers; "Peerless" High Speed Reamers; "Paradox" Adjustable Reamers; "Quick-Set" Reamers; Chucking Reamers for Turret Lathes; Counterbores; Countersinks; Sockets; End Mills; and the "Ezy-Out" Screw Extractors.

CLE-FORGE

TRADE MARK REG. U.S. PAT. OFF.

# "Profits from Small Lot Production"

**This booklet is a study of successful "small lot" methods.**

**A copy is yours for the asking.**

## The Warner & Swasey Co.

**Cleveland, Ohio, U. S. A.**

New York: Singer Building
Boston: Chamber of Commerce Bldg.
Philadelphia: 518 Springfield Ave.
Chicago: 618 Washington Boulevard
Milwaukee: 1143 Wells Building
Cleveland: 5701 Carnegie Avenue
Pittsburgh: Chamber of Commerce Bldg.
Buffalo: Iroquois Building
Detroit: 5928 Second Boulevard
Dayton: 518 Mutual Home Building
San Francisco: 50 Fremont Street

# Drill Automatically—

Kingsbury Vertical Drilling Machine with No. 82 Universal Fixture

**OPERATOR:** **1.** Inserts blank, simultaneously engaging power feed.
**2.** Picks up fresh blank.

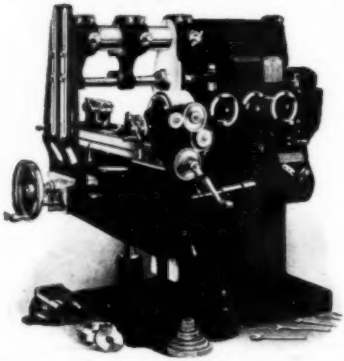
**MACHINE:** **1.** Automatically clamps work.
**2.** Drills work under uniform pressure with friction control absolutely with as coarse a feed as the tool will stand.
**3.** Unclamps and ejects work.
**4.** Stops until operator inserts fresh piece.

**This is a machine for short run jobs where production counts**

*Write for catalogue of production drillers*

**Kingsbury Manufacturing Co., - Keene, N. H.**

# LeBLOND Heavy Duty Geared Milling Machines



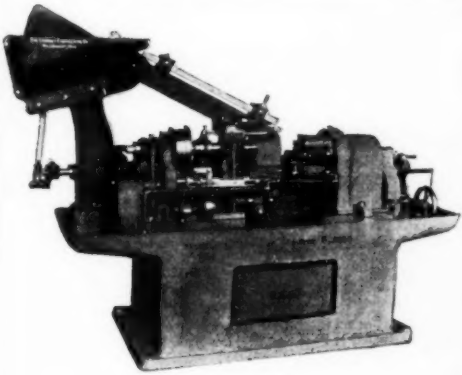
LeBlond Heavy Duty Single Pulley Drive Geared Milling Machines are simple, rugged, accurate machines best suited for the work of average shops. They are particularly adapted to tool room work and the work of jobbing or repair shops.

The one piece column, the box type knee, the exceptionally large overarm, and the self aligning arbor supports are a few of the distinctive features of these machines.

They are built in a complete line of sizes, in both plain and universal styles, and can be furnished with motor drive. Our catalogue, which gives complete description, will be sent to interested parties.

## THE R. K. LeBLOND MACHINE TOOL COMPANY

CINCINNATI, OHIO




USE

**ECONOMY COMBINED POINTING AND THREADING MACHINE TO REDUCE BOLT COSTS**

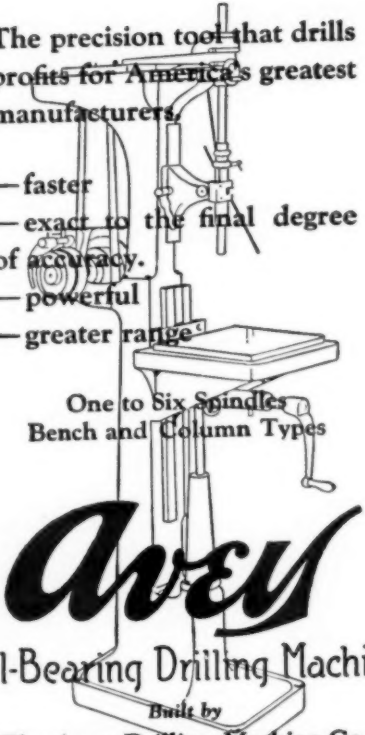
**The Economy Engineering Company**

WILLOUGHBY, OHIO

The precision tool that drills profits for America's greatest manufacturers,

—faster
—exact to the final degree of accuracy.
—powerful
—greater range

One to Six Spindles
Bench and Column Types



Avey

Ball-Bearing Drilling Machines

*Built by*

The Avey Drilling Machine Co.
Cincinnati, Ohio

# Threading at 3000 R. P. M.

These rods are being threaded with a No. 8-32 thread 5-16" long, at an average production of 1400 pieces per hour on our Standard High Speed Tapping Machine.

*How about your threaded work?*

## Leland-Gifford Co.

Worcester, Mass., U. S. A.

*Mr. Superintendent! Here's the*

## No-Tap-Breakage Chuck

—that is highly endorsed wherever used, particularly by leading automobile manufacturers, who give it extremely hard usage.

## The Woodstock Improved

—automatically releases tap the instant it binds or strikes bottom. Utilizes up to 95% of strength of tap, with positive assurance that it will not break. Saves time and money. Made in five sizes.

***Ask us to send you one on trial for use on that tap-breaking job***

**Peter Bros. Mfg. Co.,** 115 Railroad St., ALGONQUIN, ILL.

*Thor* **Electric Drills—**

***Built for Long Service***

THE reason THOR Portable Electric Drills give such long service is because they are made of the best materials that money can buy.

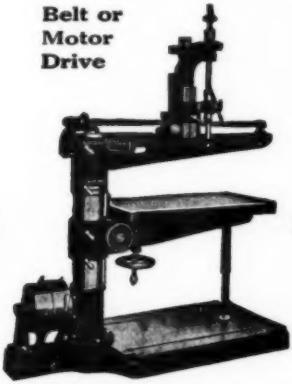
When you order a THOR you know in advance that you are going to get a drill that can be depended upon for power, speed and endurance. They are strong and powerful. Seldom need repairs. The reason is—ball and roller bearings, Jacob Chucks, double-silk wound coils—and other parts of high standard equipment.

***There is a THOR for every job. Write for our catalog. It describes the complete line***

**Independent Pneumatic Tool Co.**
**600 W. Jackson Blvd., Chicago, Ill.**

THE TAYLOR & FENN

# Sensitive High-Speed Radial




***This Great Manufacturers' Drill—***

**combines the speed of the sensitive with the flexibility of the radial, for practically all drilling requirements within its range. Drill the big pieces on the base and the small pieces on the table.**

**Tapping heads, power feed heads or hand lever feed heads may be used singly or in combination.**

**The drive is positive, through gears and silent chain. The spindle has three speeds and is bored for No. 2 Morse taper.**

*A thorough investigation of this machine will repay you*
*We shall be glad to furnish complete data upon request*

## The Taylor & Fenn Co.

**Hartford, Conn., U. S. A.**

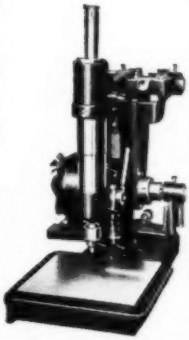
# Sigourney Sensitive Drills

## The *QUALITY* Tools

SIGOURNEY Drills are designed for those who realize that the best tools pay the largest returns on the investment.

Made with one to four spindles, plain or ball bearing, belt or motor drive. ***All parts interchangeable.***

The illustration shows our motor-driven, all-ball-bearing No. 0 High Speed Bench Drill, which may be operated up to 10,000 r. p. m.



***Complete information upon request***

**Sigourney Tool Co.**
**Hartford, Conn., U.S.A.**

## At Last—The Perfect

# Drill Chuck

### With Real Quick Change And Broken Tang Collet

Simply strike the end of drill, and out it comes. No hammer needed—no separate key. And it uses up drills with broken tangs.

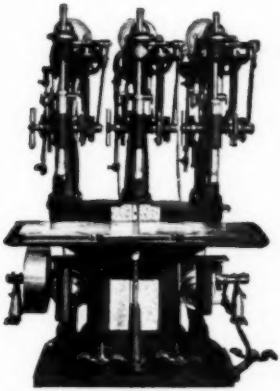
## *The Titan Drill Chuck*

has a positive drive, and operates in any position. Made in sizes Nos. 0 to 5, for any taper shank drill, counterbore, reamer, etc. Saves time, drills and cost.

***Write for descriptive price list***

**Titan Tool Company**
**Erie, Penna.**

# The Rockford Automatic GANG DRILLING MACHINE



**Superior Drilling Equipment**

*"—the utmost value for your money."*

***It's a Combination*** of our improved design, the best materials and highest class of workmanship. Operators have no difficulty in obtaining and maintaining the greatest accuracy.

***Automatic Return***—When each spindle has completed its operation it automatically returns to its highest position, where it remains until the starting lever is tripped, when it immediately drops to position above the work.

***By Removal*** of the stop pin in the cam, the spindle will immediately return to lowest position above work, and when tripped by automatic stop, will return to highest position and immediately drop again to work, repeating the movement automatically until the power is shut off. The spindle can be pulled ahead of the feed while in operation, a great advantage in drilling through a cored piece, piping or similar work.

**Built with 2, 3, 4 and 6 Spindles—Box Column Type**

*Ask for Circular. Glad to answer questions*

## Rockford Drilling Machine Co.

**Rockford, Illinois**

# A Tap Breaks—*that's plenty!*

## Your Loss Should Stop Right There

**The Walton Tap Extractor**

**Removes Them Quickly**

IT SURE COSTS MONEY to have your high priced mechanics spend a lot of time digging out the "remains." And not only is it expensive, but the work is delayed. The inexpensive solution is to use a Walton; any broken tap is removed in a jiffy, without injury to threads. Sizes No. 8 to 1¼".

***Shipped on 60 days' approval.***
***Did you say "ship"?***

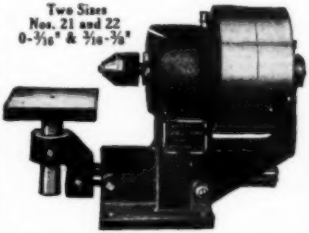
**THE WALTON CO., Hartford, Conn.**

# High Grade Tapping Machine

## At a price you can afford to pay

Here is a machine that will do your work, won't bother you with breakdowns and repairs, that your operators will like, and that you will like because it will give you production accuracy and a low installation and operating cost. Cannot give details in this space, but let us send them to you. You'll find it worth while.

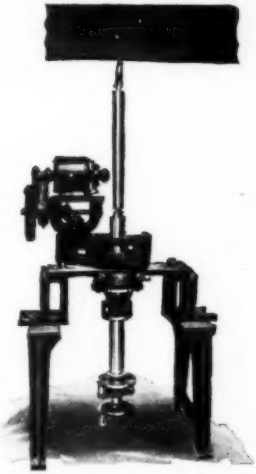
**Two Sizes**
**Nos. 21 and 22**
**0-3/16" & 3/16-3/8"**



***Your Address will bring them***

**Bicknell-Thomas Company**
**Greenfield, Mass.**

# Something New



## The Pedrick Boring Unit

This picture of drilling an overhead beam is only an indication of what the Boring Unit can do. It is intended more for other work than for drilling, but to get the whole story, write for a circular.

The Boring Unit removes the limitations from the portable boring bar, and reaches a field of work that otherwise requires the largest machine tools.

## Pedrick Tool & Machine Co.

**3644 N. Lawrence St., Philadelphia, Pa.**

Builders of Portable Cylinder Boring Bars, Crank Pin Turners, Portable Millers, Pipe Benders, etc.

Style "WC"

Style "O"

The Hinge

Style "C"

Style "A"

**Gits Gravity and Wire Wick Feed Oilers**

**Gravity Feed**—flushes the bearing.
**Wire Wick Feed**—gives desired prolonged feed.
**Wire Wick**—replaces waste or felt.
Made in Standard sizes.

Style "L"

***Write for Catalog No. 20***

Showing 255 full size illustrations with detail dimensions.

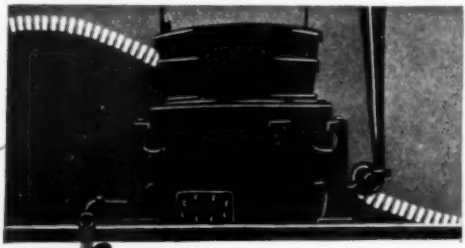
**GITS OIL CUPS**

Oil cups for every lubricating need. State style and size in which you are interested, and we will send free samples and catalog.

Style "U"

Style "T"

**GITS BROS. MFG. CO**
**1940 SO. KILBOURN AVE., CHICAGO**



**Save Cutting Oil!**

**6 to 15 gallons per load—three or four loads per hour.** ***Write for catalog.***

**Tolhurst Machine Works**
**Troy, N. Y.**

# NEW PRICES

## ETTCO

**KEYLESS DRILL CHUCKS**

***PRICES***

| | | |
|---|---|---|
| No. 1 | Ettco—0 to 17/64"... | $ 5.50 |
| No. 2 | Ettco—0 to 25/64"... | 6.50 |
| No. 3 | Ettco—0 to 17/32"... | 9.00 |
| No. 3½ | Ettco—⅛ to ⅝"..... | 11.00 |
| No. 1 | Morse Taper Shank... | .75 |
| No. 2 | Morse Taper Shank... | .75 |
| No. 3 | Morse Taper Shank... | 1.00 |
| No. 4 | Morse Taper Shank... | 1.50 |
| ½" and 41/64" | Straight Shank.. | 1.00 |

Chucks—Less 20%.
Morse Taper Shanks—Net.

ETTCO Drill Chucks are especially adapted to Electric and Air Drills. No key to lose, Chuck is Self-tightening, so drill will not slip after the work is started.

Information to equip Electric or Air Drill:—Capacity of Drill and Make.

## Special Exchange Feature!

**See Your Dealer or Write Us**

We will allow you a special discount of 35% on exchange of chucks. We will accept any chuck from you regardless of make or condition, and replace it with a new Ettco Keyless Drill Chuck, at the above discount.

## Eastern Tube & Tool Co., Inc.

**580 Johnson Ave., Brooklyn, N. Y.**

# Your Drilling Costs Are Lowered With

a U. S. Multiple Spindle Drill Head—it transforms a single-spindle drill into a multiple spindle.

You can drill two or more holes with the same speeds and feeds you use for drilling one.

**Special Heads Made to Order**

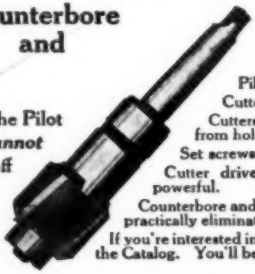
They all have patented double adjustment, which permits drilling in any pattern. ***Writing us incurs no obligation.***

**The United States Drill Head Co.,** 1952 W. Sixth St., CINCINNATI, O.

Michigan Agents—National Sales Engineering Corp., Detroit, Mich.

# "Utility" Interchangeable

**Counterbore and Spot Facer**



With the Pilot that *cannot* twist off

Pilots don't break.
Cutters don't break.
Cutters are easily removed from holders.
Set screws don't come loose.
Cutter drive is simple and powerful.
Counterbore and spot facer troubles practically eliminated.
If you're interested in economy, send for the Catalog. You'll be glad you did.

**The J. C. Glenzer Company**
**6469 Epworth Boulevard**
**DETROIT, MICH.**

DANLY STANDARD

# Leader Pins

*½-in to 3-in. diameter—4-in. to 14-in. in length*

**Danly Standard Leader Pins** are made of steel, carbonized, hardened and ground to ±.0002 in. of listed diameters, in sizes from ½ to 3 in. in diameter and from 4 to 14 in. in length.

Special care in hardening gives them a heavy case; a double quenching treatment is then given to refine and toughen core, imparting glass-hard wearing surface. All pins are lapped to assure full wearing surface.

Stocked in 106 different sizes, there are **Danly Leader Pins** for every need in repairs, replacements and odd-shaped die shoes.

Wrapped and packed in pairs, with length and diameter plainly marked upon carton, they are convenient to order, stock and use. Send for catalogue.

[ *Immediate Shipment from Stock From Nearest Office* ]

## Danly Machine Specialties, Inc.

**4913 Lincoln Avenue, CHICAGO**

**Detroit, Mich.**
1537 Temple Ave.

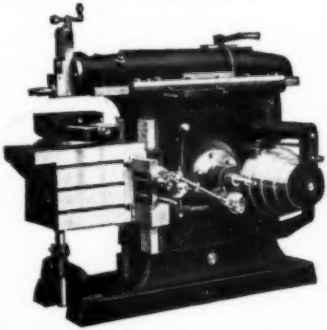
**Long Island City, N. Y.**
35 Wilbur Ave.

# SHAPERS

12", 14", 16" Plain Crank, 16", 20", 25" B. G. Crank, either Cone Driven or through Speed Box.

Belt Shifter Regular Equipment All Cone Driven Shapers.

32" Back Geared Crank, Single Pulley Drive.



**The Smith & Mills Co., Cincinnati, O., U.S.A.**

# Cleveland Open Side Planers

**Sizes—26" to 72"**

**Nothing complicated.**
**Simplicity itself.**

The Planer you can use with confidence.
Self Oiling Bushing in Drive.
Herringbone Gears for 1st Reduction.
Counterbalanced Side Heads.
Aluminum Drive Pulleys.
Box Tables.
Over 1000 Built and Installed.
Install *Cleveland* Reliability and Satisfaction

***Write for descriptive circular.***

**The Cleveland Planer Co.,** 3148 Superior Ave., N. E., CLEVELAND, OHIO

***Established in 1900***

RMC

A **big** worker on **small** work
**Low** priced, but of **high** efficiency

7 in.
Shaper
Stroke

3½ in.
Slotter
Stroke

# Rhodes Shaper and Slotter

High-grade construction, and low priced because of its size only.

More efficient than larger machines on dies, tools, models, or any small work, because more easily and quickly handled.

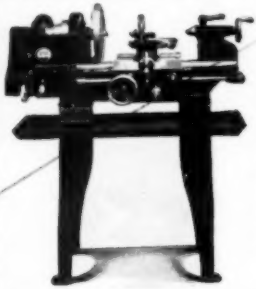
No better or more accurate tool for such work is to be had, nor one better adapted to a large variety of close machining, no matter what its size and cost.

***Ask your dealer or write for***
***CATALOG H22***

**The Rhodes Mfg. Company**
**948 Park Road, Hartford, Conn.**

SHAPERS—RHODES—SLOTTERS

# Monarch Jr. Lathes



are the smallest members of the Monarch lathe family. Yet they are the "biggest little lathes" built.

The Monarch line of lathes includes all sizes and types from the little 9-inch Junior lathe to the big, massive 30-in. lathe. In this line there is a lathe to fill your requirements at the price you want to pay.

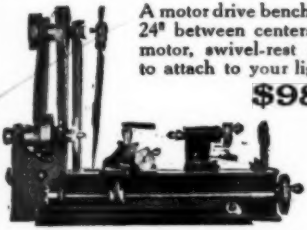
***Send for Catalog***

## The Monarch Machine Tool Co.

**206 Oak Street, Sidney, Ohio**

# Just-Rite Lathes

## Made in Sizes from 10-in. to 20-in.



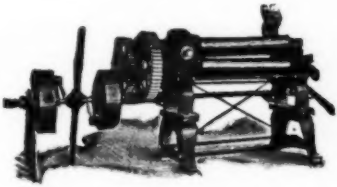
A motor drive bench lathe, 10" swing, 24" between centers, complete with motor, swivel-rest and pan, ready to attach to your light socket.

**$98**

**JUST-RITE** for turning, boring, milling and drilling (not screw cutting).

**Order one by express. Weight, 230 lbs.**

## A. V. Carroll Machine Tool Co., Norwood, Cincinnati, O.



# BELOIT

*INITIAL TYPE*

## Sheet & Plate Bending Rolls

The Beloit Initial Type Rolls are built in a large number of sizes and capacities, and for a great variety of work.

The modern design of the Beloit Rolls of this type makes it possible for the operator to curve plates completely to the edge, thus getting away from the undesirable flat near the edge of the sheet.

The quick-acting cam lever device raises the top roll for the removal of completed cylinders.

Individual and simultaneous adjustment of both ends of the forming roll can be furnished, and the machine can be arranged for third roll drive, when necessary.

Those in the market for Bending Rolls cannot afford to fail to give us their specifications, and to get our quotations.

*We solicit your inquiries for Bending Rolls, either Initial Type as shown above, or the Pyramid Type machine, as well as for Punching and Shearing Machinery, both hand and power.*

**Hendley & Whittemore Co.**

**100 S. State St., BELOIT, WIS.**

We Carry in Stock { ALL STANDARD SIZE Collets
For ALL MAKES of Lathes

Just write us the make and swing of your Lathe—we'll do the rest

## Hardinge Standardized

# Draw-in Chucks or Collets

For Bench Lathes, Engine Lathes, Tool Room Lathes, also for Bench Type Milling Machines and Screw Machines. Order where you can get reliable tools from a reliable source of supply. Prompt shipment from stock.

*Better have our Price List on hand for reference*
*May we send it? And what do you need now?*

**HARDINGE BROTHERS, Inc.,** 1770 Bertrand Av. **Chicago, Ill.**

Gold Seal
SEBASTIAN LATHES
GUARANTEED CORRECT
TRADE MARK

*Write for details*
*on our new*
**Gold Seal Lathes**

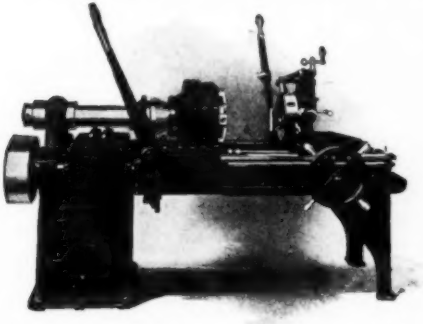
# $765

15"x6' Geared Head Lathe, Single Friction Pulley Drive, without Motor.

**The Sebastian Lathe Company**
**1000 Culvert St., Cincinnati, O., U. S. A.**

# A Big Run—Or an Odd Job?

## B & Ks Save Money at All Times



**No. 2 P D Q C—Threading & Cutting Off—Cap. ¼" to 2"—Belt Drive**

THESE STANDARD pipe threading machines are the embodiment of greater convenience and top-notch efficiency. If you have a big job on hand, set the machine and go ahead—it will stand up to the most strenuous pace. If you have a number of small jobs you will find it easy to make changes—instant adjustments can be made to the 1000th of an inch without the use of tools.

B & Ks are made in 17 styles and sizes—we have a machine for your exact needs. They thread pipe from ¼ to 18 inches in diameter. We have eliminated all uncertainty or guess work in the selection of the proper speed for the threading of any size of pipe.

***We invite you to write us about your work. Our experts will gladly advise you, and there will be no obligation***

# Bignall & Keeler Machine Works

**Edwardsville, Illinois**

**Sales Agents: Manning, Maxwell & Moore, New York, N. Y.**

**Chicago Boston St. Louis Pittsburgh Cleveland Philadelphia**
**Buffalo Detroit Syracuse Seattle San Francisco Atlanta**

# NOTICE—

*To USERS Of*

# "Advance" Lathes

**Formerly made at Milwaukee, Wis.**

We have purchased the entire outfit for building these Lathes, and are prepared to give service on repair parts, etc.

**The Carroll & Jamieson Machine Tool Co.**

**Batavia, Ohio**

## Armstrong Lathe Dogs and Clamps

**Drop Forged Steel**
**All Sizes and Shapes**

The Dogs are thorobreds; the Clamps have lots of backbone. Screws are alloy steel.

***Complete Catalog Free***

**Armstrong Bros. Tool Co.**

**"The Tool Holder People"**

**308 N. Francisco Ave., Chicago, U. S. A.**

The Nicholson Patented

# Expanding Mandrels

Are Saving Lots of Money

*Strong!* *Rigid!* *Accurate!*

YOU LOSE no valuable time, nor is a job delayed, when a set of Nicholson's Mandrels are available. Compared to these up-to-date tools, solid mandrels are an expensive make-shift.

Nicholson Expanding Mandrels come in sets of nine, with two or three sets of jaws for each. And ***one set*** will cover the ***entire*** range between one-half and seven inches, inclusive. In other words, at least one of these mandrels will take absolutely ***any*** hole, no matter what it is, between these two dimensions, without calipering or guess work, and the nine will replace ***all*** the solid mandrels.

They are adaptable to work of the most varied nature. They save time and labor out of all proportion to their moderate cost.

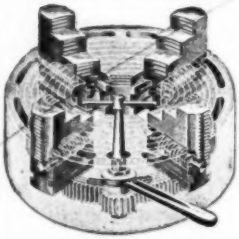
***Write today for the instructive Booklet and our 30-day trial offer***

**W. H. Nicholson & Company**

**117 Oregon Street, Wilkes-Barre, Pa.**

# NO LOST TIME

***With a Westcott Combination Chuck***

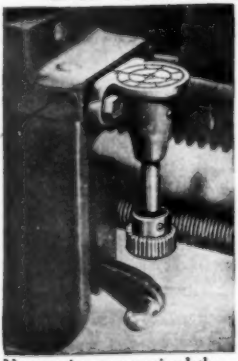


No need changing from a universal to an independent chuck when you have a Westcott Spur Geared Combination. For the jaws of a Westcott operate either independently or simultaneously. Think of the time this will save. Why buy two types of chucks when a Westcott Combination Chuck will do both jobs?

***Get our free catalog.***

**WESTCOTT CHUCK Co** Walnut St., ONEIDA, N. Y.

## E-Z THREAD DIAL E-Z



No stopping or reversing lathe.
For all sizes lathes. Saves backing belt.

**ORDER BLANK**

Kind of thread on lead screw

| Square | Acme | V |
|---|---|---|
| ☐ | ☐ | ☐ |

Right Hand ..... ☐
Left Hand ..... ☐
Number of threads .. ☐

Give distance from top of carriage to center of lead screw
( )

**E-Z to Attach**
**E-Z to Use**

**List Price, $14.00**

***Sent on 30 days' trial***

**JAMES M. COLVEN**
20 Wolfe Street, Yonkers, N. Y.

A Magazine-Fed Machine

# For Driving Short Screws

And Screws with Short Bodies and Large Heads

## The Reynolds No. 1 Special

The only Automatic Magazine-Fed Machine that will handle binding head screws and screws with short bodies and large heads.

Drives screws from No. 4 to No. 10, up to ½ in. long, to the center of a 14-inch circle.

Just keep the hopper filled—no handling of screws beyond that—a boy or girl can easily operate it. Sets screws as tight or loose as desired.

THE No. 1 SPECIAL is only one of our many sizes and types of Magazine-Fed Screw Driving Machines for driving machine screws, wood screws, stove bolts, hex. head or square head bolts, etc., etc., at a big saving in time and cost.

Send us samples of your assemblies containing screws and we will recommend the proper equipment to meet your requirements.

**The Reynolds Machine Company**

**Dept. H. H., Massillon, Ohio**

# T. H. L.
## Rugged Punches
### *Make Money*

They make money, because they insure continuous and profitable production.

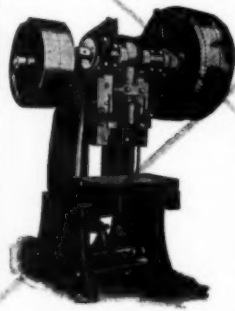
They are made right, of the right material, with our experience of 35 years behind them.

Large stock of regular sizes. Special sizes quickly made.

*Our Catalog includes Punching and Cutting Machines, Special Tools, etc.*

**T. H. Lewthwaite Machine Co.**
**417 East 31st St.,** *(Est. 1890)* **New York City**

## A Quality Inclinable Press Backed by a Real Guarantee



A Loshbough-Jordan Press cannot be overloaded while operating within its rated speed. Any shaft or frame broken under these conditions and within year of purchase will be replaced gratis.

Many features for convenience and safety of operator; long, satisfactory service; quality and volume of output excellent.

*Let us tell you about them —or better, let us send a press on 30 days' trial.*

**Loshbough-Jordan Tool & Machine Co.**
**Elkhart, Ind.**

# AM FORGED

# Upset Forgings

## Cover a Wide Range of Sizes and Shapes

They range from "pocket size" pinion blanks to huge 600 lb. shafts.

The Am Forged Tractor Steering Gear clutch shaft, here illustrated, weighed 203 lbs. It replaced two cumbersome steel castings which had to be machined separately and bolted together.

It saved the customer a lot of money, and made an infinitely better tractor part.

***Send for This Book***

Am Forged Tractor Clutch Shaft.
Length, over all, 35¾ in.
Shaft diams., 4½ in. and 5¼ in.
Collar, 8¾ in. x 1½ in. face.
Weight, 203 lbs.

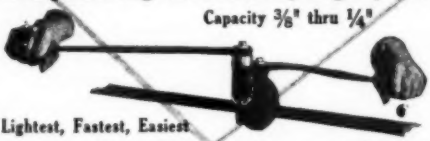
**Small cut shows, by contrast, range of sizes we can produce.**

**AMERICAN FORGE CO.**
**2631 So. Hoyne Ave., CHICAGO**

# WHITNEY BALL BEARING PUNCH No. 10

**For punching sheet metal, angles, etc.**

**Capacity 3/8" thru 1/4"**



**Lightest, Fastest, Easiest**

With the elimination of friction, all the energy applied to the levers is transmitted to the punch. This permits a thread pitch impossible on any other punch, placing this tool *in a class by itself.*

***Write for Catalog of Ball Bearing Hand Punches***

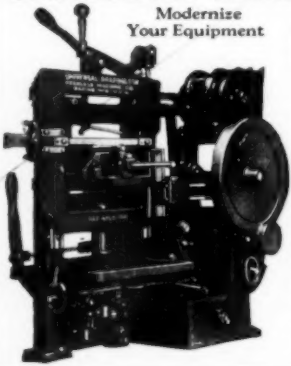
Whitney Metal Tool Company

BALL BEARING PUNCHES

95 Forbes Street — Rockford, Illinois, U.S.A. — 95 Forbes Street

# —PEERLESS—
# UNIVERSAL SHAPING SAW

Modernize Your Equipment



Latest and Most Efficient in Hack-saws Faster — More Accurate and Economical

***REDUCES***
Cutting Time
Wasted Material
Blade Expense

***ELIMINATES***
Semi Finishing Jobs

Cap. 6"x6" & 13"x13"

**PEERLESS**
**HIGH SPEED HACK-SAWS**
**6"x6" 9"x9" 13"x16"**

**Sturdy--Efficient--Reliable**

**Peerless Machine Co.**
**1609 Racine St.**
**Racine, Wisconsin**

*Write for Details*

## For Sawing Solid Bars, Beams, Channels, Angles, Tees, Etc. For Accurate Die Work, Tool Room Work and All Kinds of Shop Sawing, Use the MARVEL METAL BAND SAW No. 8

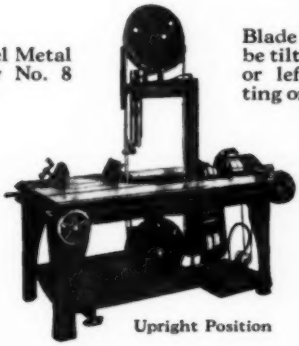
It cuts off square and true, and will also cut on an angle right or left without swinging the bar around the shop.

**CAPACITY** up to and including **18 INCHES**

*Write us today. Put one of these machines to work in your shop.*

The Marvel Metal Band Saw No. 8

Blade frame can be tilted to right or left for cutting on an angle.



Upright Position

**ARMSTRONG-BLUM MFG. CO.**

341 N. Francisco Ave., CHICAGO, ILL.

# This Free Chart

## The Correct Guide in Cutting

Your request on your letterhead will bring this authoritative chart.

**RACINE "JUNIOR"**

Portable High Speed Metal Cutting Machine, easily moved to any location near electric light socket. Smooth, vibrationless, need not be bolted to floor. Normal capacity 0 to 4".

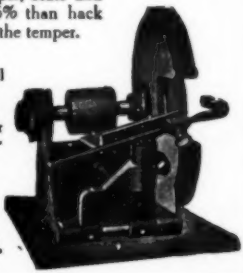
Use "Racine" H. S. Wood and Metal Band Saw Blades & "Racine" H. S. Tungsten Power and Hand Hack Saw Blades. *Catalog H.*

**Racine Tool & Machine Co.**
1429 Junction Av., Racine, Wis.
"STANDARD THE WORLD OVER"

# Cuts Metals Economically

## Saves Time, Material and Money

***Peter's*** Abrasive Metal Cutter quickly makes a thin, smooth, square cut in hard steel, forming tools, drills, reamers; also tubes, rods and bars of copper, brass and aluminum. Cheaper by 75% than hack saw or file. Doesn't draw the temper.



**8" Size $22.50, with C. S.**
Splendid for tool room. Cuts all high-speed steel up to ⅝" square.

**12" Size $60, with C. S.**
Cuts up to 2¼" diameter, round or square, at any angle up to 45 degrees. Ball bearing.

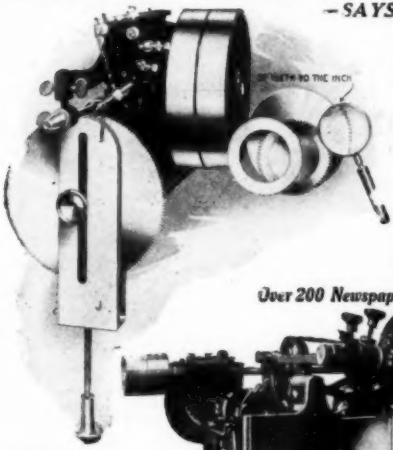
***15 Days' Free Trial***

**Write us or ask your dealer**

**PETER BROTHERS MFG. CO.**
115 Railroad St., Algonquin, Ill.

# DOES THE WORK

*—SAYS THE FILER*



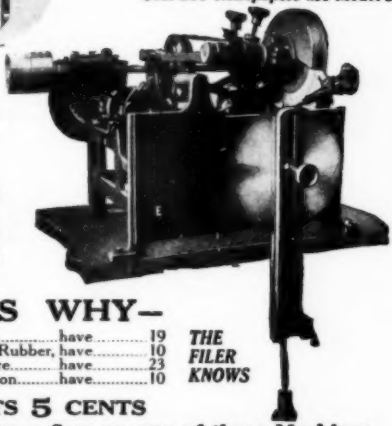

MODEL J

Resharpens all soft or medium tempered Circular Saws used for cutting—

Brass, Bronze, Fibre, Wood, Etc.

All saws used in Newspaper Plants.

*Over 200 Newspapers use Model J*



MODEL E

Salvages all Cold, Milling, Slitting and Screw Slotting Saws.

## THAT'S WHY—

| | | |
|---|---|---|
| American Brass | have | 19 |
| American Hard Rubber, | have | 10 |
| Continental Fibre | have | 23 |
| Formica Insulation | have | 10 |

***THE FILER KNOWS***

**IT COSTS 5 CENTS**

**To Sharpen a Saw on one of these Machines**

***Write for our FREE booklet on saw maintenance***

# THE WARDWELL MFG. CO.

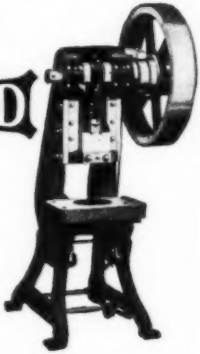
**Specialty Manufacturers of the largest line of Saw Filers Made in the U. S.**

**108 Hamilton Ave., Cleveland, Ohio**

# There with the Punch

Great Power backed by heavy rugged design enable

HIGH DUTY
**ROCKFORD**
PUNCH PRESSES

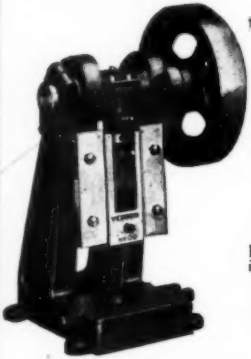


to out-punch and out-work any press of their capacity.

Their punch-ability and accuracy will surprise you.

***Write for catalog***

**Rockford Iron Works**
ROCKFORD, ILL.



Trade **Verson** Mark

**Is a symbol of**

**QUALITY**

***found only on Verson***

**Power Presses**
**Arbor Presses**
**and**
**Angle Shears**

For the prevention of accidents insist on Verson presses.

They are equipped with an

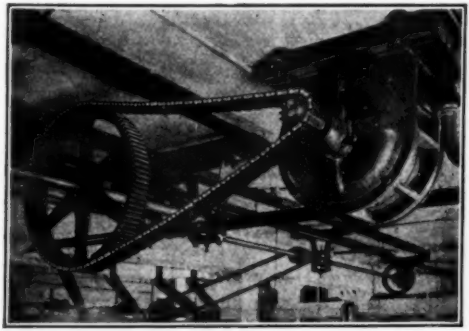
**Automatic Safety Clutch**

***Write for Circular***

**La Salle Machine Works** 3013 S. La Salle St., CHICAGO, ILL.

# "WHITNEY"

## Silent Chain Drives



**A "WHITNEY SILENT CHAIN DRIVE" can profitably be used on your line shafts.**

**There is no slippage, no loss of power, and no high maintenance costs.**

***Let us fit the drive to the job***

**THE WHITNEY MFG. CO., - HARTFORD, CONN.**

**NEW YORK**
L. C. Biglow & Co., Inc.
243 W. 55th St.

**BOSTON**
George C. Steil
727-A Boylston St.

**PHILADELPHIA**
R. J. Howison
624 Race St.

**PITTSBURGH**
Pittsburgh Gear & Mch. Co.
27th & Smallman Sts.

**SYRACUSE, N. Y.**
George McPherson
201 Norwood Ave.

**DETROIT**
A. G. Brice
240 Gen. Motors Bldg.

**CLEVELAND**
Smith Power Transmission Co.
1218 Ontario St.

**CHICAGO**
E. H. Huntington
215 Machinery Hall

**SAN FRANCISCO**
A. H. Coates Co.
615 Howard St.

**SEATTLE, A. H. Coates Co., 1115 East Union St.**

# SOMETHING NEW

**Hand Power Presses, Shears, Notchers, Punches and Dies, Etc.**

**Write for Booklet**

**J. F. Kidder Mfg. Co., Burlington, Vt.**

Nos. 1, 2 & 5

# When All Is Said

and done, you cannot beat our line of tools for cutting sheet, bar or round rods in iron or mild steels.

***You can use our line of***

# Hercules' Shears and Rod Cutters

For cutting card, straw and fibre boards, brass and copper, gold and silver sheets, and hard rubber compositions.

***Catalog No. 2 on request.***

Plain Shears Nos. 3 & 4

**W. C. & F. C. TUCKER**

**HARTFORD, CONN.**

# NATCO
# Universal Joints

The interchangeable method of manufacture of NATCO Universal Joints permits repair parts replacement to overcome natural wear. Complete replacement is very seldom necessary.

**Manufactured in the following sizes—**
**¾"—1"—1¼"—1½"—2"**

*Descriptive Bulletin will be sent on request.*

## National Automatic Tool Co.
**Richmond, Indiana**

# Vanderbeek Universal Joints

—represent the practical refinements of 25 years experience in manufacturing Universal Joints. All parts are generous sized, fully protected against dirt, and are practically self-oiling. Exceptionally strong, they transmit full power up to 70°.

Vanderbeek Joints are in daily use on thousands of machines.

***Write today for our Descriptive Catalog.***

**American Tool Works, Inc.**

**Hartford, Conn., U. S. A.**

# "Borgeson Universal Joints"

**Are you a user of Universal Joints? If so!**

Remember well and bear in mind that a good Universal Joint is hard to find. But if you want one tried and true, you will want the "Borgeson" before you are through.

You will become not only a "Buyer" but a "Booster" for "Borgeson."

**SIZES:** ⅜, ½, ⅝, ¾, ⅞, 1, 1⅛, 1¼, 1½, 1¾, 2, 2½, 2⅞.

Should you require Special Universal Joints, be sure to write for quotation.

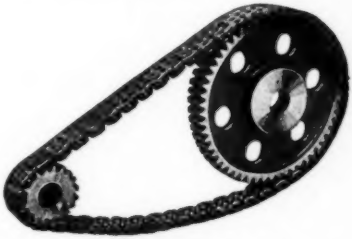
***Complete description gladly furnished upon request***

**The Borgeson Mfg. Co., Inc.**

**Torrington, Conn.**

# Renold—Boston

## silent chain drives



These standardized Silent Chain Drives maintain 98% efficiency throughout their ENTIRE LIFE.

Expert made in the ***world's largest*** standardized gear factory.

For ***quiet, positive*** drives.

***Send for Latest Catalog***

**BOSTON GEAR WORKS SALES CO.**

*NATIONAL HEADQUARTERS*

**Norfolk Downs, Quincy, Mass.**

**BOSTON NEW YORK PHILADELPHIA CLEVELAND CHICAGO**

# Grant Noiseless Rotary Rivet Spinner

## For Speed, Uniformity And a Perfect Finish

***Speed***—One rivet per second.

***Uniformity***—Every rivet headed with desired degree of tightness or looseness.

***Finish***—Heads highly polished; no hammer or tool marks.

## Send Us Samples

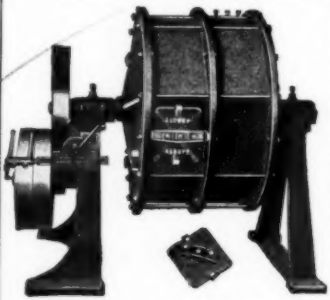
—of your most difficult or hard-to-get-at work. We will rivet and return them with time and cost estimate.

*Send along your samples for riveting*
*And ask for the Catalog*

**The Grant Mfg. & Machine Co.**
**C. E. Station, Bridgeport, Conn.**

# Abbott Burnishing Process

## Low-Cost High-Quality Finishing



A scientific carbonized steel process for burnishing small metal parts in large quantities at lowest cost. Produces a brilliant uniform surface.

Now equipped with gear guards, belt shifter and strainer cover.

***Description and prices?***

**THE ABBOTT BALL COMPANY**
**Elmwood District, Hartford, Conn.**

# The Old Way

Results in damaged shafts, bushings, pins and other parts, as well as accidents to the workmen.

## With Nicholson Arbor Presses

all of these losses and accidents are eliminated, and considerable money is saved. Made in five sizes that take work up to 20" in diameter and 31" high and exerting pressures up to 9,000 lbs. Can make immediate delivery on all sizes and will be glad to send any size on trial.

### Nicholson Expanding Mandrels

**Save space**—A set of nine does the work of several hundred solid mandrels.

**Save time**—Instantly fit any hole round or square, from ½" to 7".

**Save labor**—No need to caliper a dozen or so solid mandrels, or turn one down to fit certain job.

*Write for literature and 30-day trial plan*

**W. H. Nicholson & Co.**

**117 Oregon St., Wilkes-Barre, Pa.**

# Atlas Arbor Presses

**For All Forcing Operations**

Illustration shows our No. 55 Power Drive Press, which is adaptable for fast production work and capable of supplying ten tons pressure.

***Write for our Bulletin—showing 30 different sizes***

**Atlas Press Co.**

***Department B,***

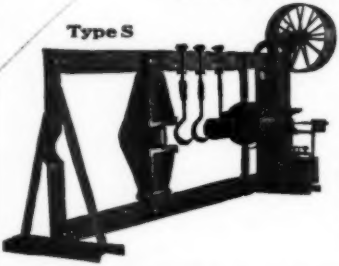
**Kalamazoo, Michigan**

# Lourie Wheel Presses

**are made with—**

**CAST STEEL CROSSHEADS**
**I-BEAM BUTTRESSES**
**DIFFERENTIAL PUMPS**

**Type S**



There are no better **WHEEL PRESSES**, few as good.

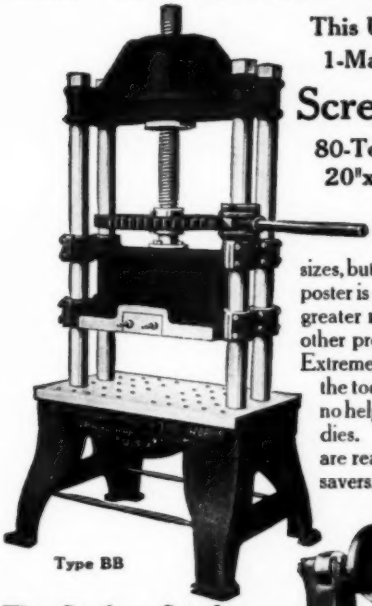
Made in any tons capacity.

Any distance between Strain Bars.

Any length of Ram Stroke.

**LOURIE MFG. CO., Springfield, Ill., U.S.A.**

# Best for Heaviest Work—



Type BB

**This Up-To-Date**
**1-Man 4-Post**

## Screw Press

**80-Ton Pressure**
**20"x36" Table**

We also make three smaller sizes, but this sturdy four-poster is stronger and has greater rigidity than any other press of this type. Extremely convenient—the tool maker requires no help in handling the dies. All four sizes are real time and labor savers.

## This Surface Grinder

is a revelation in quiet efficiency. Powerful, rigid and accurate. Has non-vibrating wheel. Both feeds have graduated dial.

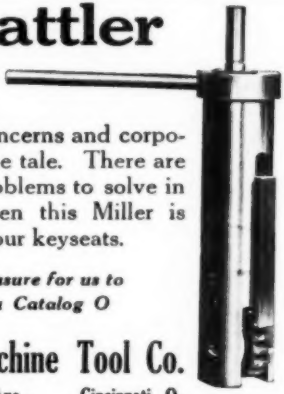
*Economy Tools. Write for Details*

**JARECKI MACHINE AND TOOL CO.**

Successor to Manhattan Machine & Tool Works
Dept. A. GRAND RAPIDS, MICH.

# A Rattler

*used by*



many large concerns and corporations, tells the tale. There are no difficult problems to solve in key fitting when this Miller is used to mill your keyseats.

***It is a pleasure for us to send you Catalog O***

## National Machine Tool Co.

**2268 Spring Grove Ave., Cincinnati, O.**

# Keyseats Shafting In Place

## Anywhere, in any position

**The BURR Portable Keyseater**

Cuts accurate keyways up to 12" long anywhere, in any position, in shafts up to 5" diameter.

DON'T WAIT until you need it, when you would pay 10 times its cost to have one; ORDER NOW.

***Over 9,000 in use. Will you be the next?***

## JOHN T. BURR & SON

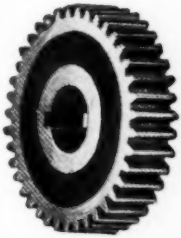
**422 Kent Ave., Brooklyn, N. Y.**

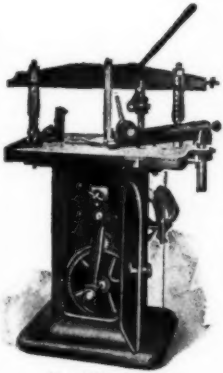
# You Need a "Davis"

Of course you must have quite a number of

## Keyways

*like this to cut—*





No. 1 Keyseater

You need a "DAVIS" for such work, because it will give you the same satisfactory service it gives users everywhere.

Nothing better for cutting keyways in pulleys, gear blanks, bell cranks, crank handles, etc., and for oil grooving and similar work.

***Made in two sizes—***

**No. 1, Cap. ⅛ to 1 in.**
**No. 2, Cap. ⅛ to ⅝ in.**

*Write for complete illustrated description, including interesting table of cutting time*

## Davis Keyseater Company

**255½ Mill St., Rochester, N. Y., U. S. A.**

Type 6

# New "AUTEX" Extension Reel

## 1925 Model

**Don't Forget the Swivel Joint Feature**

Permits of carrying the lamp in any direction.

Rapidly finding a place in large Industrial Plants, Machine Shops and Service Stations.

**Now equipped with Belden Rubber Cord**
**Approved by the Underwriters**

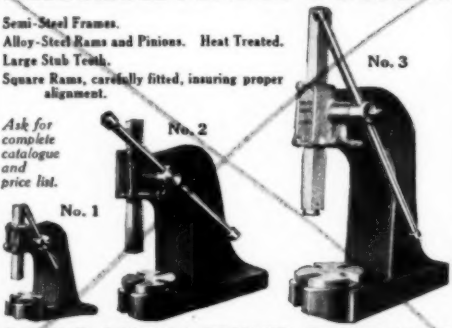
***Write for descriptive circular***

**The Cincinnati Specialty Mfg. Co., Inc.**
**1903 Powers St., Cincinnati, Ohio**

# Sheldon Arbor Presses

**Semi-Steel Frames.**
**Alloy-Steel Rams and Pinions. Heat Treated.**
**Large Stub Teeth.**
**Square Rams, carefully fitted, insuring proper alignment.**

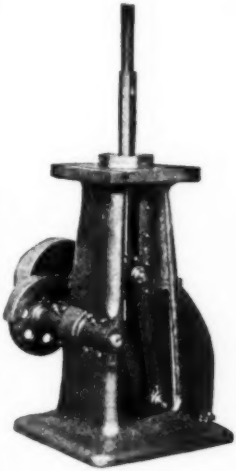
*Ask for complete catalogue and price list.*




**SHELDON MACHINE COMPANY**
**3251 Cottage Grove Ave., CHICAGO, ILL.**

# In Three Minutes—

## A Catlin Cuts a Keyseat 6"x1"x7/16"



*Favor us with your inquiry. We shall be glad to mail the interesting folder and answer your questions.*

**Many other** time-saving examples could be cited to show what is being done with this up-to-date, rapid keyseater in the run of an ordinary day's work.

**Simplicity** is the keynote of all Catlins—they contain less than half the number of parts of other keyseaters. And ordinary help soon becomes expert with them.

**Catlins** have the crank motion, which is much easier on the cutter than the rack and pinion drive. On some classes of work it is possible to keyseat piece after piece without clamping down the work or stopping the machine.

**The Picture** shows the No. 1 Catlin, belt driven, with three-step cone pulley. Our other sizes, for belt or motor drive, cover practically all keyseating requirements.

**Chattanooga Machinery Company**

**2401 Bennett Ave., Chattanooga, Tenn.**

Model "25"

In a Leather Case with Universal Attachments

**Only $10.**

*On a Surface Gauge*

# FEDERAL
## Dial Indicator

Adjusts instantly to any desired position on a surface or height gauge; also for checking lathe, miller, grinder, shaper or planer work.

Send for our complete catalog of Dial Indicators, Cylinder Gauges, Comparators, Thickness Gauges, Piston Gauges, Rubber Gauges, Piston Pin Gauges, Fabric Gauges, Paper Gauges, Wire Gauges, Piston Ring Gauges, Thread Lead Gauges.

**Federal Products Corporation**

Elbow & Chestnut Sts., Providence, R. I.

---

**Compact—Sensitive—Accurate—Durable**

# The "ATLAS JUNIOR" INDICATOR

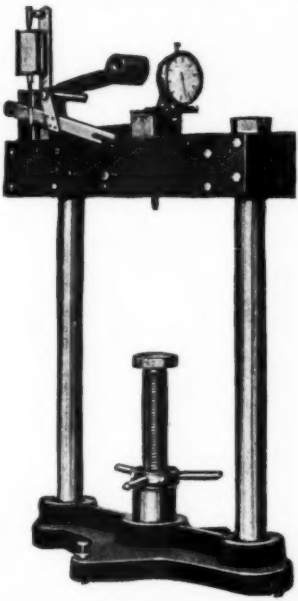
Reads over a range of 0.055"—at a glance. Dial may be set at zero after adjusting to work. Contact point can be locked in position for inspecting. Keep it in your pocket and use it anywhere. Details?

**PRICE $7.50**

*Sold by Dealers or Direct*

## WALLACE BROS.

160 N. Wells St., *Dept. B.B.* CHICAGO, ILL.



## ROCKWELL HARDNESS TESTERS

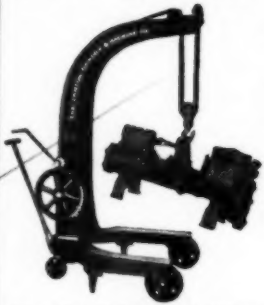
The large Model 5-D shown above was made for the Ingersoll-Rand Co. They required it for testing the hardness of the ends of 16" long plunger hammers in pneumatic drills. We can make these tall Rockwells with any desired length of columns.

## WILSON-MAEULEN COMPANY INC

*We have a representative near you*

**St. Mary's St. & Concord Ave., New York City**

# OMIT that Lift! Lug! Labor!



One man with a CanTon moves 2 or 3 tons around with perfect ease and safety. And the

**CanTon Portable Crane, Hoist and Truck**

is also a most excellent auxiliary to your overhead system, if you have one, and quite indispensable if you have none.

**Your choice of Several Sizes**

*Write for Booklet E-8*

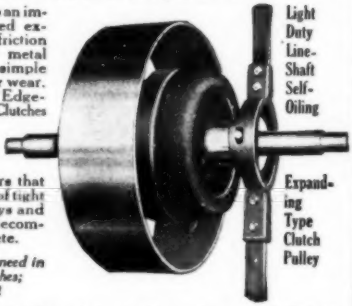
**CANTON FOUNDRY & MCHE. CO., Canton, Ohio**

New York Office: 203 East 15th Street, Second Floor

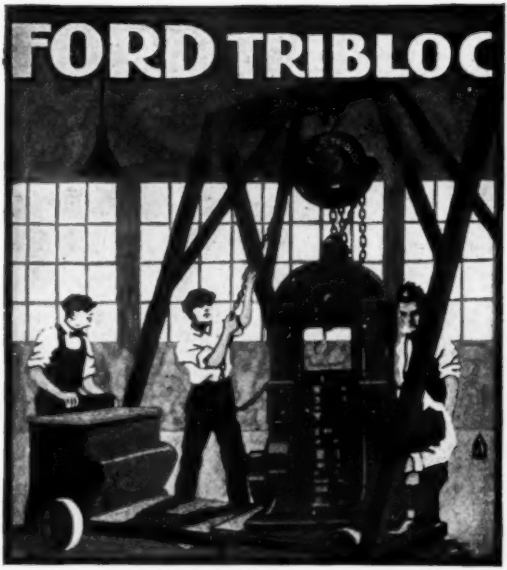
# Edgemont Friction Clutches
## For All Purposes

This clutch has an improved patented expanding type friction with metal to metal contact, with simple adjustments for wear. The value of "Edgemont" Friction Clutches on line shaft has been so universally acknowledged by mill operators that the old system of tight and loose pulleys and belt shifting is becoming quite obsolete.

*Tell us what you need in Friction Clutches; we have it*




**Edgemont Machine Co., Inc., DAYTON, OHIO**




# "Safety First" Hoists

By resisting the surge and shock of hoisting service in the shop—the strength, safety and smooth action of Ford Triblocs are saving man power and labor hours, and speeding human effort.

Workmen appreciate the advantages of Ford Triblocs—management profits through their use.

**Capacities ¼ to 20 tons**

*Write for Catalog 6-B*

FORD CHAIN BLOCK COMPANY
2nd & Diamond Sts., Philadelphia, Pa.

# This Power Feed Miller $220

**BURKE No. 4**

**Longitudinal feed.....8"**
**Traverse feed.....4"**
**Vertical feed.....8"**
**Table surface.....3½"x16"**

Can be equipped with Index Centers, Vertical Milling Attachment, Slotting Attachment, Draw-in Chuck Attachment, and vises with plain or swivel base or quick acting. Very accurate.

We make both power and hand feed machines at prices ranging from **$100 to $220.**

*Write for Catalog*

**The BURKE MACHINE TOOL COMPANY**
**297 East 16th Street**
**CONNEAUT, OHIO**

# The BARKER GENERAL PURPOSE VISE

## For Planers, Shapers, Drilling and Milling Machines

*Steel faced jaws*

*Graduated to swivel any angle*

*Extra heavy for hard usage*

The screw runs through entire length of vise, with bearing on each end. Nut at rear equalizes strain. Sizes 8" and 12" General Purpose and 16" Mold Makers' Vise. Sturdily built, and so exceptionally handy that users would not part with them. Be sure to get our literature and prices before buying.

**WM. BARKER & CO.**

**Manufacturer of Machine Tools, COVINGTON, KY.**

# Western Adjustable Vise

This is *the* vise of vises. There is no limit to the number of positions within its range, in either swiveling or elevating. It is more quickly and easily positioned than any other vise made. Only one locking lever is required for all swivels. It is simple, durable and accurate—does not jump or rattle under chiseling or hammering. It is the vise with the greatest number of virtues.

***A full line of Vises; write for Catalog***

**The Western Tool & Mfg. Co.**
**Springfield, Ohio**

# *Save Time*
# *Setting Gang Milling Cutters*

Eliminate Thin Washers

Hardened and Ground

PATENTED

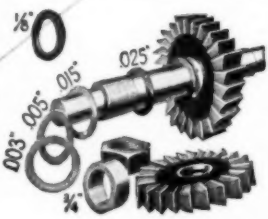
***"Wear-Ever" Adjustable Spacing Collars***
permit setting cutters to the thousandth part of an inch without removing from the arbor.

***Stock sizes for ¾" to 2½" arbors, sent on approval***
***They are adjustable in 12 steps of 2/1000 inches***

**SCULLY-JONES & CO.** *TOOL DIVISION*
**13th and Robey Streets** **CHICAGO, ILL.**

# Steel Spacing Washers—

**Made of a good grade of Cold Rolled Strip Steel, also known as Shim Steel**




Stock sizes for arbors of following diameters: ⅜, ½, ⅝, ¾, ⅞, 1, 1⅛, 1¼, 1⅜, 1½, 1⅝, 1¾, 1⅞, 2, 2¼, 2½, 3, 3½ and 4 in. and larger.

Stock thicknesses: .002, .003, .004, .005, .006, .007, .008, .010, .012, .015, .020, .025, .032, .047, .063, .093 and .125 inch.

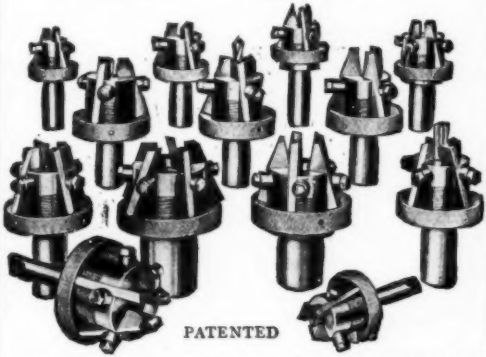
Other thicknesses up to 3.000" made to order, with keyways if so ordered.

***Ask us to send samples; you'll like them***

# Detroit Stamping Company
**3443 West Fort St., Detroit, Mich.**

# Genesee Hollow Mills

## Have Adjustable, Replaceable Blades




***Adjustable***—One set of blades machines all sizes within their capacity to the 1000th of an inch. Only seven sizes cover the entire range from ⅛" to 2".

***Replaceable***— The blades can be replaced at nominal cost, saving the buying of new tools.

***Accurate***—Genesee Hollow Mills cannot change in size, even after repeated grindings, as solid tools do, and they are stronger.

***Economical***—Economical to buy, because one Adjustable Hollow Mill covers several sizes; economical in upkeep, because of replaceable blades; economical in operation, because they cut up to 15" a minute in steel or to the capacity of machine.

***Write us of your needs and reduce your costs***

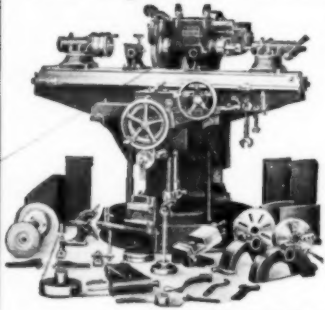
**Genesee Manufacturing Co., Inc.**

Established 1908

**Rochester, N. Y., U. S. A.**

***Manufacturers of Genesee Rapid Production Tools***

# Thompson 10"x36" Universal Grinder



A high-grade machine for

**Plain, Surface, Edge, Die, Cutter** *and* **Internal Grinding**

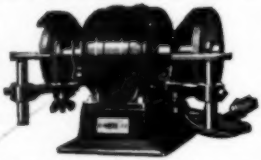
—and good at all of them.

*Write for Bulletin*

**Manufactured By**

**THE THOMPSON GRINDER CO., - Springfield, Ohio**

# Bodine Portable Electric Tool Grinders



***Have Eight Outstanding Advantages***

Which we want to tell you about

***Equip Your Plant*** throughout with Bodine-Built Grinders, driven by Bodine-Built Motors, and there will be no excuse for robbing your production with dull tools in any department.

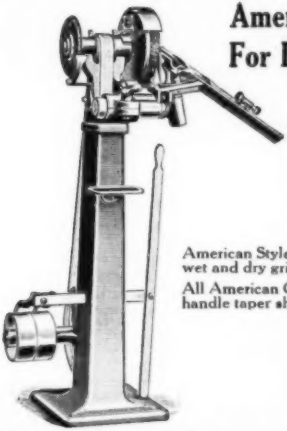
The "Eight Outstanding Advantages" are real, for the purpose of insuring sharp tools and better production—a tremendously important consideration.

*Write for a copy of "Eight Outstanding Advantages"*

**The Bodine Electric Company**

**2256 West Ohio St., Chicago, Ill.**

# La Salle Grinders



## American Style C T A
## For Dry Grinding Only

Unexcelled as a dry grinder for twist drills. Extra large drill holder has capacity from 1" to 3½".

American Style W T A is arranged for both wet and dry grinding.

All American Grinders are now equipped to handle taper shank drills.

## No. 1 Plain and Surface Grinder

(Micrometer Adjustment)

| | |
|---|---|
| Grinding wheels | 8"x1" |
| Between wheels | 15" |
| Height to spindle center | 40" |
| Table surface | 8"x14" |

**Has vertical travel of 12" on guides, ¾" by micrometer, and may be raised to within 2" of spindle center. Wheel grinds to center of a surface 9" wide.**

***Let us know your grinding requirements***

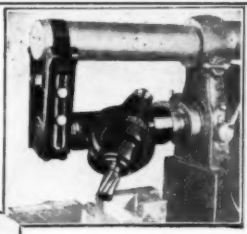
# LaSalle Tool Company

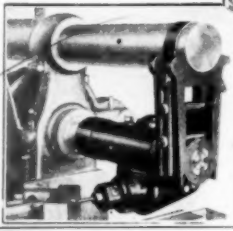
LaSalle, Illinois, U. S. A.

Reduce Set-ups on intricate work with the

# New Hevy-Du-T

## Universal Milling Attachment





**Off or On in three minutes**

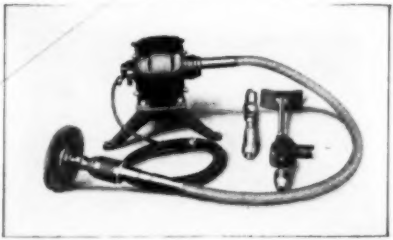
*Write for details*

PORTER-CABLE MACHINE CO.

Salina St. Syracuse, N. Y.

# The Whirlwind Buffer and Grinder

**Will cut the cost on any unhandy grinding or polishing job**



*Send for our latest bulletin*

**Stow Flexible Shaft Co.,** 3454 Ludlow St., Philadelphia, Pa.

*The Best Since 1876*

# Grand Rapids Universal Grinder

***MOTOR DRIVEN***

**With All Overhead Works Eliminated**

GRAND RAPIDS No. 3 & No. 4 Universal Grinders
are furnished either hand feed or power feed,
wet or dry, motor drive or belt drive.

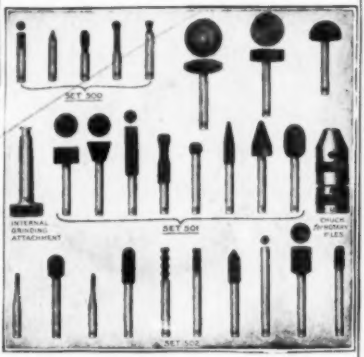
CIRCULAR ON REQUEST

**Gallmeyer & Livingston Co.**

**342 Straight Avenue, S. W.**

**GRAND RAPIDS, MICH.**

## HIGH SPEED HAND CUT ROTARY FILES




# *Strand*

## Rotary Files

Used with Strand Flexible Shaft Machines. Are giving excellent service.

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N. A. Strand & Co.
5001 No. Lincoln St.
CHICAGO

# A Profit of 500% a Year

***Built Since 1887***
***Better now than ever***

Let us tell you how

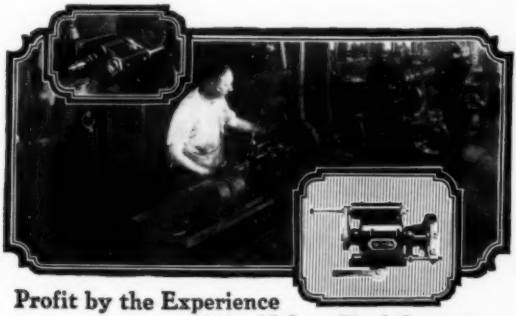
**TOWSLEY TRUCKS**

repay their cost every two to three months.

Made in every style for every need.

***Write for the interesting facts and figures***

**John T. Towsley Mfg. Co., Cincinnati, Ohio**



## Profit by the Experience of the Nelson Tool Company

THE Nelson Tool Company, New York, prominent makers of tools and dies, have for several years been using Dumore grinders with the utmost satisfaction. They recently told us that in some cases the Dumore grinders could be used to much better advantage than any other grinder of similar character.

Why not profit by the experience of the Nelson Tool Company and other famous users whose high standards of workmanship are so well met by Dumore grinders? If you make jigs, dies, gages or other hardened tools—simple or intricate—you can depend upon Dumore grinders to fulfill *your* every requirement just as efficiently and satisfactorily.

Six styles and sizes—with individual speed ranges—provide a grinder with the correct cutting speed for any grinding need. Dynamic balance and smooth operation of Dumore grinder motors eliminate vibration. Ability to operate on either alternating or direct current, assures constant usage of these tools in plants supplied with two varieties of power current. Portable, they can easily be taken to the job—saving the cost of tearing down expensive set-ups.

These are but a few of the advantages of Dumore grinders. Our new catalog gives complete information on *all* their advantages. Send for this interesting book. You may learn a hint or two that will prove mighty valuable.

**Wisconsin Electric Co., 43 Sixteenth St., Racine, Wisconsin**

**DUMORE HIGH SPEED GRINDERS**

# Anderson IMPROVED Ever-Ready Balancing Ways

**Balance 'most anything that revolves**

Extremely sensitive. Discs accurately balanced. Always ready—need no adjustment—no leveling needed—no centers required. Last indefinitely. The hardened spindles hold their accuracy—don't become indented with ordinary use. Six sizes. Get the folder and close price.

| "Swing" | 20" | 40" | 60" | 72" | 96" | 72" |
|---|---|---|---|---|---|---|
| Greatest distance bet. standards | 20" | 30" | 30" | 66" | 88" | 20' |
| Capacity in lbs. | 1000 | 2000 | 2000 | 5000 | 10000 | 24000 |
| Approx. shipping weight | 45 | 90 | 150 | 350 | 650 | |
| Code | Bead | Bid | Bis | Bib | Ben | |

*Any of above can be furnished with longer shafts*

**Anderson Bros. Mfg. Co.**

**1915 Kishwaukee St., Rockford, Ill.**

# For Sure Balance--

**an absolutely level and solid "Way" is necessary**

## Bowsher "Balancing Ways"

are brought to an absolute *level* in ten seconds. No revolving parts.

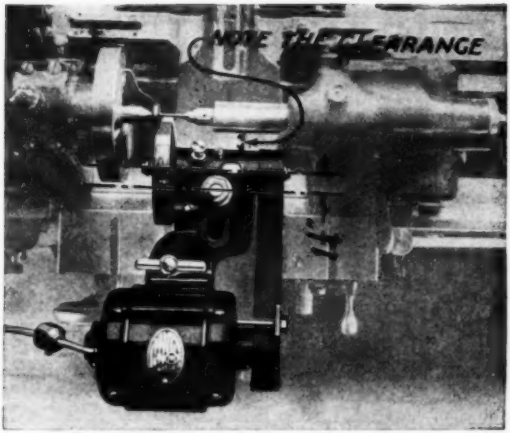
The edges or "knives" upon which the work is tested are ground *true*, and are mounted upon the planed "ways" of a heavy bed or frame.

Standards adjustable to suit length of arbor.

**Three sizes for floor—one for bench use**

*Send for Catalog "F"*

**The N. P. Bowsher Co., South Bend, Ind.**




The Smallest Piece can be Ground Between Centers

# The most Flexible **Precision Grinder** And it's Portable

## For Internal and External Grinding

It has the sturdy construction to meet every demand, yet is light enough to be portable and usable on the various machine tools in your plant.

Built on a precision basis, it is particularly valuable where the allowable limits are held inside of tens of thousandths of an inch.

Those who are using this highly developed grinder, find it a most valuable addition to their tool room or machine shop equipment.

***Write for our Booklet, which describes many new features and illustrates several operations in internal, external and surface grinding.***

***Manufactured by***

**J. E. GILBERT GRINDER CO.**

**214-16-18 Greenbush St., MILWAUKEE, WIS.**

**SERVICE TOOL DIE & MFG. CO.**

**2256-58 W. Walnut St., CHICAGO, ILLINOIS**

***Distributors for*—ILLINOIS, OHIO, INDIANA, MICHIGAN**

# *FREE*— a *BRONZE* Letter Opener

We will send a handsome letter opener to any one who will write us for a copy of our Catalog, using their firm stationery.

The Catalog shows our complete line of modern, up-to-date

## Grinding Wheel Dressers and Cutters

—the kind it pays to use.

**Desmond-Stephan Manufacturing Co.**
**Urbana, Ohio**

***Specialists In***
**DRESSERS and CUTTERS**

# POWELL BLOW GUN

**Designed to dispense AIR with utmost economy**

**Used for cleaning machines, machine tools and work benches**

Made with different tips for special requirements.

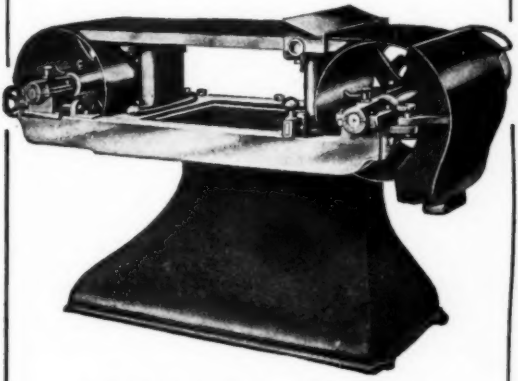
***Circular on request.***

**The Wm. Powell Co.**
**2525 Spring Grove Ave., Cincinnati, O.**

# PEERLESS
## SURFACING MACHINES

Will reduce grinding and finishing costs and give you better work.

Can be substituted for many expensive milling machine and planer operations.



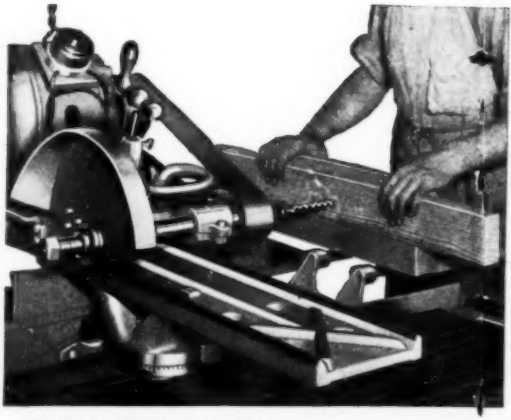
**Made also in vertical and bench models.**

***Send for large folder***

**PEERLESS SURFACING MACHINE CO., Inc.**

**TROY, N. Y.**

**In Canada: A. R. WILLIAMS MACHINERY CO., Toronto**



THE MASTER WOODWORKER MFG. COMPANY,

*This advertisement is*
*interests of good Drill*
*by the makers of the*

***Good equipm***

Jacobs Chucks

# The "Master" Woodworker

## For Your Pattern Shop
OR OTHER
## Woodworking Department

***In many a plant,*** where the amount of woodworking required does not justify a large equipment of individual machines, there is great need of one reliable universal machine for working in wood.

***The "Master" Woodworker*** is ideal for such a purpose. It is simple in construction and easy to operate, yet truly universal. It cross-cuts, rips, joints, bores, mitres, dadoes, rabbets, planes, sands, etc.—in fact, is really 12 machines in one, and each one a real machine.

***The "Master"*** is motor driven and portable. It is regularly equipped with Jacobs Chucks for all boring operations, as shown in the illustration.

***The profusely illustrated folder is yours for the asking***

**OMPANY, 608 Brush Street, DETROIT, MICHIGAN**

*ent is published in the Drilling Equipment the Jacobs Chuck*

***l equipment pays good dividends***

# "Bridgebilt" Factory Seating and Tool Racks

A diversified line to meet requirements of every branch of industry.

**The Bridgebilt line will give long and satisfactory service**

*For illustrated price list and discounts write—*

**The Chicago Wire Chair Co.**

619 No. LaSalle St., Chicago, Ill.

No. 1010-SWS

**OT-STEEL**

ANGLE STEEL STOOL CO.

**FACTORY—SHOP—OFFICE QUALITY EQUIPMENT At the Right Price**

*Catalog on Request*

**ANGLE STEEL STOOL CO.**

**Plainwell, Michigan**

No. 218-DC

No. 100 Stool

## Dependable Service on

# Hollow Bored Forgings and Steel Shafts

If you make machines on which you use ***Lathe Spindles, Piston Rods, Rams, Clutch Shafts,*** or similar parts, let us quote on your requirements. Our products are right, our prices are right, and our service is dependable.

***Send along your blueprints; we'll both be pleased with a trial order***

**American Hollow Boring Co.**
**Erie, Penna.**

# Send Us Your Inquiries

We are always glad to forward a memo of any machinery or equipment for which you are in the market to all of our advertisers without charge.

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printed on the other side of this page is for this purpose, and you are free to make use of it without obligation.

It has been the means of bringing many buyers and sellers together, to their mutual profit and satisfaction.

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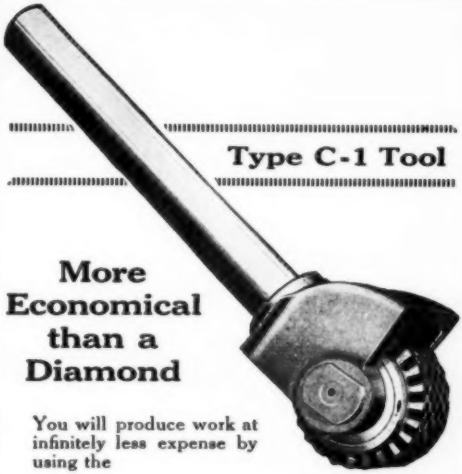
A copy of your memo will be forwarded to all advertisers in the BLUE BOOK. The replies will come directly from the parties who have the articles wanted—***not from the publisher,*** who is not in the machinery business.



**Type C-1 Tool**

# More Economical than a Diamond

You will produce work at infinitely less expense by using the

# "Precision" Roughing and Semi-Finishing Wheel Truing Tool

Not a substitute for the diamond, but built on an entirely different principle, which is an improvement over the diamond in that it produces work equal or better than that of the diamond, and at a greatly reduced cost.

**It will pay you to put Precision Wheel Truing Tools to a test.**

***Ask for descriptive booklet***

**The Precision Truing Machine & Tool Co.**

**CINCINNATI, OHIO**

# Check your choice:

—Excellent
—Good
—Fair
—Punk

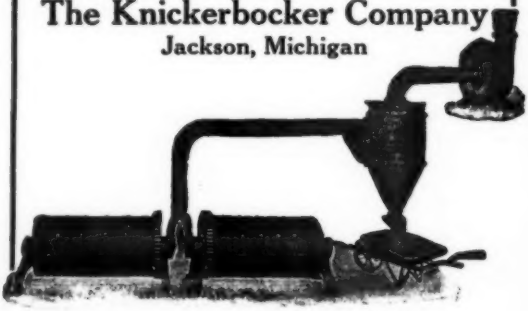
BUT WHY NOT PROFIT by the experience of others—of expert engineers who thoroughly tested various makes of collectors and finally were convinced that the

## "Rarefied" Dust Collector

had by far the most points of excellence? They found greater efficiency, a saving in power, and its scientific construction reduced repairs to practically nil. It is operated on the "rarefied" or partial vacuum principle, which draws the air thru the collector and removes the dust before the air reaches the fan. No matter how difficult your dust problem—whether heavy, grinding, gritty, flinty or cutting dust—the "Rarefied" is the best solution.

***Our interesting Booklet is yours for the asking***

**The Knickerbocker Company**
**Jackson, Michigan**



# Second-Hand Machinery

Lists of Second-Hand Machinery, either For Sale, Wanted or For Exchange, set in uniform style, will be published under this heading at the rate of **50 cents a line**, across the page, each issue, plus **$2.50** for name and address. Minimum charge, **$5.00.** No display permitted in this department.

**Write directly to those offering the machines for sale** for prices and full descriptions. If what you seek is not listed, use the blank enclosed to make known your wants to the publisher, who will pass them along to all Machine Tool Blue Book advertisers.

**Circulation of Machine Tool Blue Book, 25,000.**

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## FOR SALE BY

**J. L. Lucas & Son, Inc., - - 3 Fox St., Bridgeport, Conn.**

AUTOMATIC SCREW MACHINES.

10 Practically new ⅜"—¾" model B Cleveland Automatic screw machines, serial numbers 29,000. Write for photograph and full description.

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## FOR SALE BY

**Hamblin & Russell Mfg. Co., - - - Worcester, Mass.**

STEAM ENGINE.

One Brown steam engine, 100 to 150 h. p.; dim. of cylinder 13"x34" face stroke; diam. of drive wheel 11', with face 19½". In perfect order; has not been used since the war. Net weight 16,500 lbs. Built in Fitchburg, Mass., 1912. Price today new $2,500. Our price f. o. b. cars $650.

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## FOR SALE BY

**The Reeve-Fritts Company, 558 Washington Blvd., Chicago, Ill.**

Boring mill, 30" Bullard.
Die filer, Haskins, bench.
Drill, 30" C. & O. radial.
Grinder, No. 1 Besly, disc, 12".
Lathe, 10"x4' Prentice.
Lathe, 13"x6' Willard.
Lathe, gap, 22/36x8' Harrington.
Miller, No. 2 Becker universal.
Screw mach., No 3 Foster, pr. fd. tr.
Screw mach., No. 2 Foster.

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## FOR SALE BY

**H. Glasser Machinery Co., - 30 S. Clinton St., Chicago, Ill.**

Band saw, 30" Fay & Egan.
Bolt cutter, 1¼" Acme.
Brake, power, 8', 10 ga.
Drill press, 24" Foote-Burt.
Drill press, 24" Becker, h. d.
Grinder, 12"x42" B. & S. univ.
Grinder, No 2 B. & S. surface.
Lathe, 30"x12' Lodge & Shipley.
Paper cutter, power, 38".
Planer, 26"x26'x7' Ohio.

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## FOR SALE BY

**McMullen Machinery Company, - - Grand Rapids, Mich.**

Automatic, ⅜" Cleveland.
Automatics, No. 00 B. & S.
Band saw, 10" Napier, metal.
Cut-off saw, No. 4 N. & B.
Drill, 31" Barnes, sliding head.
Drill, No. 1 Avey 2-sp., p. f.
Grinder, Cleveland, profile.
Grinder, No. 6-A Bryant.
Lathe, 9'x21½" Sundstrand, mfg.
Lathe, 2½x26 Greenlee, flat turret
Miller, No. 2-H Becker vertical.
Pipe mch., 6" Merrill No. 6½.
Press, Chicago scrap baler.
Press, No 3 Manville, d. a.
Presses, No 6 Manville, pillar, (3).
Presses, No 8B Manville, pillar, (2).
Shear, No. 14 Pettengell, rotary.
Shear, No. 152 Niagara, sq.
Shear, No. 2 W. F. Co. 36" gang.
Welders, No. 10-A Thomson vert. (7)

Ask for Complete List.

## SECOND-HAND MACHINERY

## FOR SALE BY

**Niles-Bement-Pond Company, - 111 Broadway, New York**

**Located at our various factories**

A Partial List of the Machines is given herewith

### LATHES.

10"x 5' Pratt & W., toolmakers'.
14"x 6' Pratt & Whitney.
14"x 8' Pratt & Whitney.
16"x 8' Pratt & Whitney.
17"x 8' LeBlond, motor drive.
18"x10' Bement.
20"x12' Bement.
21"x 8' LeBlond, motor drive.
24"x14' Pond, quick change.
26"x10' Pond, motor drive.
26"x16' Pond, quick change.
30"x16' Pond, quick change.
32"x17' Pond, triple geared.
32"x67' Bement, triple grd., mtr.
36"x12' Pond, triple grd., motor dr.
36"x17' Pond, triple grd., motor dr.
36"x28' Bement, triple geared.
36"x76' Bement shafting lathe.
42"x24' Pond, motor drive.
60"x44' Pond, motor drive.
2½"x26" Pratt & W. turret lathe.
3"x36" Pratt & W. turret lathe.
28" Pond rigid turret lathe.

### PLANERS.

24"x24"x 6' Whitcomb.
24"x24"x10' Whitcomb.
26"x28"x 6' Gray.
30"x30"x 6' Pond, 2 hds., rev.mtr.dr.
30"x30"x12' Pond, 2 hds., rev.mtr.dr.
36"x36"x12' Bement, 4 hds., paral. dr.
36"x36"x14' heavy Pond planer, 4 heads, reversing motor drive.
36"x36"x24' Bement, 4 hds., paral.dr.
38"x38"x12' Niles, 4 hds., parallel dr.
42"x42"x18' Pond, 4 hds., parallel dr.
48"x48"x20' Pond, 4 hds., rev. mtr.dr.
42"x42"x26' heavy Pond planer, 4 heads, reversing motor drive.
60"x60"x20' Niles, 3 hds. parallel dr.
60"x60"x20' Pond, 4 hds., rev. mtr.dr.
72"x60"x14' Bement, 4 heads, reversing motor drive.
72"x72"x32' Ridgway, 4 heads
96"x84"x42' Bement, 5 heads, reversing motor drive.
120"x120"x36' Betts, 4 heads, motor drive thru belts.
144"x96"x36' Bement, 5 hds., r. m. d.

### SHAPERS AND SLOTTERS.

17" Bement dbl. trav. hd. shaper.
22" Bement single traveling head shaper, motor driven.
6" Bement slotter.
10" Bement slotter.
21" Bement slotter.
30" Bement slotter, motor driven.

### MILLING MACHINES.

No. 3 Brown & Sharpe plain, motor driven.
No. 3 LeBlond plain, single pulley.
No. 3 Cincinnati, vert., m. d.
No. 5 Brown & Sharpe plain.
No. 5 Brown & Sharpe vertical.
6"x49" Pratt & W. thread miller.
6"x80" Pratt & W. thread miller.
6"x132" Pratt & W. thread miller.

### GEAR CUTTERS.

No. 3 Brown & Sharpe spur.
No. 4 Brown & Sharpe spur.
No. 4 Newark spur, motor driven.
No. 5 Brown & Sharpe spur.
No. 6 Brown & Sharpe spur.

### DRILLING MACHINES.

32" Aurora.
40" Bement "Goose-neck" drill.
No. 13 Pratt & Whitney adjustable multi spindle.
No. 2 Bement cotter & keyseat drill.
5' Ridgway radial, motor driven.
6' Ridgway radial, motor driven.
6' Pond radial, motor driven.
6' Niles semi-universal radial, motor driven.
6' Niles univ. radial, motor driven.
8' Pond radial, motor driven.

### VERTICAL BORING MACHINES.

36"-44" Niles side hd. mill, motor dr.
37" Niles boring & turn'g mill, m. d.
50" and 60" Niles pulley borers.
100" Niles boring & turn'g mill, m. d.
10' Niles boring & turn'g mill, m. d.

### HORIZONTAL BORING MACHINES.

46" Bement horizontal boring and drilling machine, 2½" bar.
60" Bement horizontal boring and drilling machine, 2½" bar.
68" Bement horizontal boring and drilling machine, 4½" bar.
80" Bement horizontal boring and drilling machine, 5½" bar, motor driven.
60" Bement duplex control boring machine, 3½" bar, motor driven.
Pond floor drill, 3" bar.
Bement boring, drilling and milling machine, 3¾" bar, motor driven.
Niles boring, drilling and milling machine, 4½" bar, motor driven.
Niles boring, drilling and milling machine, 5" bar, motor driven.

**Niles-Bement-Pond Company—Continued**

HORIZONTAL BORING MACHINES—Continued.

Niles boring, drilling and milling machine, 6½" bar.
Bement boring, drilling and milling machine, 6" bar, motor driven.

ELECTRIC TRAVELING CRANES, 220 V., D. C.

50-ton crane, 60' span.
30-ton crane, 50' span.
25-ton crane, 48' span.
5-ton crane, 20' span.
3-ton crane, 22' 6" span.
3-ton crane, 20' 2½" span.
2-ton crane, 19' span.
4-ton Yale & Towne electric hoist on 28' span crane bridge.
5-ton electric jib crane, 28' boom.

POWER HOUSE EQUIPMENT.

200 k. w. Thompson-Ryan generator, 250 volts, direct current, direct connected to Corliss steam engine, 100 r. p. m.
100 k. w. Thompson-Ryan generator, 240 volts, direct current, direct connected to McEwen Ridgway engine, 250 r. p. m.
250 k. w. General Electric synchronous converter, 2-phase, 60 cycle, with two transformers for 2300 volts—250 volts direct current.
200 h. p. non-condensing Corliss engine.
250 h. p. non-condensing Corliss twin engine.
125 h. p. Philadelphia non-condensing cross-compound Corliss engine.
10x10x12" Laidlaw, Dunn Gordon class J. E. duplex air compressor.

MISCELLANEOUS.

Grinder, No. 3 B. & S. univ., mtr. dr.
Grinder, 12"x36" Pratt & Whitney vertical surface.
Grinder, No. 71 Heald inter., mtr. dr.
Hammer, 350 lb Bement sgl. fr. stm.
Punch, No. 2 L. & A., 48" throat, m. d., 1" thru 1".
Pipe machine, 2" Cox, m. d.
Punch, No. 3 L. & A., hor., 12" thrt., m. d.
Punch, "D." L. & A., dbl., 36" thrt., 3" thru 1¼".
Shear, gate, No. 7 L. & A., 12" thrt., 72"x¼".

All motor driven machines are for 220 volts, direct current.

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## FOR SALE BY

**Fitzsimmons & Cole Machinery Company**

**1208 House Building, - - - Pittsburgh, Pa.**

Air compressor, 10"x12", 164 cu. ft.
Air compressor, Ingersoll, 1180 cu.ft.
Bending roll, angle, 4"x4"x⅜".
Bending rolls, No. 5 H. & J. 12'x⅜".
Bending rolls, 6'x⅜".
Bolt cutters, 1½" to 4" Landis.
Borer, car wheel, 48" Pond.
Boring mill, 30" Bullard turret.
Boring mill, 36" Niles.
Boring mill, 42" King, m. d.
Boring mill, 52" King, m. d.
Boring mill, 60" Betts, 2 hds., m. d.
Boring mill, 84" Bullard.
Boring mill, 144" Pond, 2 heads.
Drill press, 20" Barnes Camel Bk.
Drill pressses, 24" to 36".
Drill press, No. 25 Foote-Burt.
Drill press, 1-D Colburn.
Drill, radial, 3' Cincinnati-Bickford.
Drill, radial, 5' Prentice, s. p. d.
Engine oil, 50 h. p. International.
Flanger, McCabe, ⅜" capacity.
Grinder, Landis crankshaft, 18"x48".
Grinder, Landis crankshaft, 16"x68".
Grinder, Landis plain, 12"x32".
Hammer, 200 lb. Bradley upright helve.
Hammers, 600 lb. to 6000 lb.
Hammer, 800 lb. Merrill board drop.
Lathe, 16"x 6' South Bend.
Lathe, 27"x10' Lodge & S., q. c. g.
Lathe, 50"x34' Pittsburgh.
Lathe, axle, No. 3 Niles.
Miller, No. 3-A Garvin plain.
Miller, Ingersoll slab, 84", drum type.
Pipe machines, 2" to 12".
Planers, 30" to 12'.
Planer, rotary, 48" Newton.
Planer, plate, Cleveland 23'x1".
Press, No. 20 Bliss, o. b. i., 2" str.
Press, No. 37½ Bliss straight side, 6" stroke.
Press, wheel, 300 ton Putnam.
Punch, multiple, 84" Cleveland.
Punch & shear, Cinti, ⅜" thru ⅝".
Punch & shear, No. "A" L. & A., 2" thru 1½".
Punch & shr., H. & J., 1½" thru 1¾".
Punch, hor., Cleveland, 1" thru 1".
Riveter, 70-ton Hanna, 18" reach.
Sand blast, MacLeod, 36"x36".
Saw, 18" Higley, cold.
Shaper, 24" Gould & E., bk. grd.
Shear, angle, 8"x8"x1½" L. & A.
Shear, guillotine, 24" United.
Shear, plate, 9'x⅜" Morgan.
Straightener, 30" Waterbury-F. ⅜".
Testing machine, 100,000 lb. Olsen.
Turret lathe, No. 2-A Warner & S.
Turret lathe, No. 4 W. & S. univ.
Turret lathe, 24"x6" Gisholt.
Welder, butt, Thompson, cap. 1½" rd.

## SECOND-HAND MACHINERY

## FOR SALE BY

**Cyril J. Bath & Co., 6900 Machinery Ave., N. E., Cleveland, O.**

### BORING MILLS.

42" Baush, 2 swivel heads, 75%.
7' Betts, double head, 85%.

### DRAW BENCHES.

15,000 lbs. to 25,000 lbs. Waterbury-Farrel, United Engineering and Standard; 20" draw, with 18' extensions for mandrels, heavy cast iron; 85%.

### DRILLS—MULTI-SPINDLE.

4-spindle 20" Barnes, 85%.
4-spindle Foote-Burt sensitive, 85%, (2).

### DRILLS—RADIAL.

No. 3, 10' Cleveland Punch & Shear wall radials.
No. 1, 8' wall radial.
1—4' Cincinnati plain, 70%.

### DRILLS—UPRIGHT.

20" Mechanics-Rockford, 60%.
24" Rockford, as above, 65%.
24" Kokomo hi-speed, slid. hd., 85%.
24" Aurora, slid. hd., gr. fd., 85%,(2).
24" Cincinnati, slid. hd., fric. bk. grs.
28" Cincinnati, sliding head, 80%.
32" Cincinnati, with tap. att., 75%.
24" No. 25 Foote-Burt, 90%.

### FORGING MACHINES AND BULLDOZERS.

No. 3, Williams & White double end bulldozer, 80%.
1" Ajax, 75%, (3).
4" Acme, steel bed, 90%.
250-ton Mesta steam hydraulic, 85%.
1½" all steel Acme, 85%.

### GRINDERS.

No. 3 Brown & Sharpe univ., 70%.
10x36" Modern univ., and parts, 70%.
84" Diamond surface, 85%.
No. 75 Heald internal, with extra spindles and c/s., 85%.
No. 4 Gardner, motor, disc, 85%.
Washburn drill grinder, 70%.
Yankee drill grinder.
Whitney wet tool grinder, 20"x2" wheel; 75%.
18x96" Norton plain, 75%.

### HAMMERS.

No. 8 Beaudry, power, arranged for motor drive, 80%.
100-lb. Bradley, helve, 75%—90% (3).
500-lb. Bradley, upright helve, 80%.
600-lb. Merrill, board drop, 75%.
800-lb. Billings & S., board drop, 75%.
800-lb. Waterbury-F., board dr., 75%.
800-lb. Lane, steam forging, 80%.
850-lb. Bell, steam forging, 85%.
1500-lb. Waterbury-Farrell, board drop, 80%, (2).
2000-lb. Waterbury-Farrell, board drop, 80%, (2).
800-lb. to 4000 lb. Chambersburg and Massillon steam drop hammers.

### LATHES.

14"x6' Hendey tool room, t. a., 75%.
16"x8' Hamilton, belt feed, 50%.
16"x9' Lehmann, 85%.
18"x9' Chard, with chucks, 90%.
18"x8' Lodge & Shipley, 70%. (4)
18"x8' American, 3-step cone, late model, compound rest, 85%.
19"x8' LeBlond, friction hd., 60%.
20"x8' Lodge & Shipley, d. b. g., 75%.
24"x12' Reed, belt feed, loose change gears, 60%.
32"x18' Schumacher, cone head, 60%.
36"x18' Schumacher, tri bk. grd., 75%.
48"x28' Bridgeford, grd. hd., t. a., 85%.

### MILLING MACHINES.

Style "B" Gooley & Edlund, 80%, (2).
20"x7"x18" Oesterlein plain, 50%.
No. 0 Steptoe plain, univ. heads, 90%.
No. 0 Rockford, new.
No. 1 Rockford pl. bk. geared, 90%.
No. 2 Brown & Sharpe vertical, 50%.
No. 3 Brown & Sharpe, plain, 65%.
No. 3B Brown & S., pl., heavy, 60%.
No. 5 Becker, 50%, (4).
No. 13 B. & S., Lincoln type, 50%.
Becker miller, model "C," table 14"x54", motor drive, 85%.

### PLANERS.

22"x24"x57" Fitchburg, 75%.
24"x24"x6' Liberty, 1 head, new.
24"x8' Pond, single head, 50%.
30"x30"x8' Gray, single head, 80%.
30"x10' Lodge & Davis, sgl. hd., 50%.
48"x48"x16' Gray, 4 hds., mtr. dr., 90%.
60"x48"x16' Pond, 2 hds., old style, light pattern, 50%.

### PRESSES.

Waterbury-Farrel trimmers, 56" flywheel, 4" stroke, 60%, (3).
No. 57 Toledo trimmer, with side shear, 80%.
Small Pratt & Whitney trimmer, stroke 3", 70%.
Waterbury-Farrel trimmers, 60" flywheel, 80%, (2).
No. 55 Cleveland, 85%.
Old No. 56 Toledo, 75%.
59½ Toledo, straight side, single crank, tie rod frame, 80%.

**Cyril J. Bath & Co.—Continued**

PIPE MACHINES.

4" Jarecki, with dies and countershaft, late model, 85%.
8" Jarecki, with dies and countershaft, late model, 85%.

PUNCHES AND SHEARS.

No. 2 Hilles & Jones horizontal punch, 70%.
54" gap American ship punch, capacity 1" thru 1", 70%.
5" Pels bar shear, all steel frame, 85%.

SAWS.

No. 3 Ajax hot saw and burring machine, complete, 80%.
6" Racine hack saw, 75%.
9" Racine hack saw, 75%.

SHAPERS.

20" American, crank, belt, 80%.
21" Averbeck, 75%.
24" Walcott, crank, back geared, 90%.
24" Gould & Eberhardt crank, back geared, 85%, (2).

SLOTTERS.

10" Newton, with countershaft, 75%.
12" Sellers, 75%.
16"-18" Dill; adjusting ram, arranged for motor drive, 80%.

TUMBLING BARRELS.

Several sets 18"x48" chill lined square, with roller bearings and exhaust.

TURRET LATHES AND SCREW MACHINES.

21" Gisholt, standard model, 70%.
No. 4 Bardons & Oliver, 50%.

WOODWORKING TOOLS.

12" Fay & Egan pattern lathe, 90%.
Fay & Egan pony planer, 90%.
15" Silver post drill, 90%.
Fay & Egan ripsaw, 90%.

MISCELLANEOUS.

Air compressor, 14"x12" Ingersoll-Rand, with tank, class E. R. I., serial No. 33413, 85%.
Blower, American, 9' fan, motor driven, 85%.
Blowers, Sturtevant, motor driven, 85%, (2).
Boring machine, for cylinders, portable, 4" bar, 7" feed, arranged for motor or engine drive, 75%.
Gear cutter, 36" Gould & Eberhardt, 60%.
Gear hobbers, No. 12 Barber-Colman, 90%, (2).
Magnetic chucks, 90%, (2).
Riveter, Hanna I-beam frame, 12" gap, 90%.

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## FOR SALE BY

**The Randle Machinery Co., 1723 Powers Street, Cincinnati, Ohio**

ENGINE LATHES.

| | | | |
|---|---|---|---|
| 14"x 6' Lodge & S., q. c. | $ 450. | 24"x 8' Schumacher & Boye, loose change | $ 500. |
| 15"x 6' Flather, loose change | 200. | 30"x18' Reed, loose change | 900. |
| 16"x 8' LeBlond, loose chnge | 300. | 48"x24' Niles, loose change | 2,000. |
| 21"x10' LeBlond, quick chge. | 750. | | |

PLANERS.

| | |
|---|---|
| 32"x32"x14' American, 2 heads | $1,250. |
| 36"x36"x14' American, 2 heads | 1,350. |
| 36"x36"x18' Niles, double housing, each housing equipped with 2 rail heads, motor drive | 1,500. |
| 42"x42"x26' Cincinnati, 2 heads | 2,250. |
| 60"x60"x20' Niles, 4 heads, motor drive | 3,000. |
| Pedrick & Ayer open side, planes 30" wide, bed 11' long | 1,000. |

MISCELLANEOUS.

| | | | |
|---|---|---|---|
| Bolt cutter, Acme 4" sgl. hd. | $ 750. | Miller, No. 3 Cincinnati pl. | $ 800. |
| Boring mill, 60" Niles vert., d. c. motor drive, with mtr. | 750. | Radial drill, 6' Niles full univ., d. c. motor dr., with motor | 750. |
| Drill press, 45" upright, back geared, power feed | 300. | Shaper, 12" Pratt & Whitney crank, traveling head | 300. |
| Drill press, 24" Aurora upright, back gear, pwr. fd. | 275. | Shaper, 29" Smith & Mills, back grd. crank, late type | 800. |
| Grinder, No. 60 Heald cylinder | 750. | Shaper, 24" Kelly, b. g. crank, | 750. |
| Hack saw, Kwik Kut, power, 14" blade, | 50. | Turret lathe, 24" Gisholt, d.c. motor drive, with motor | 500. |

Many other bargains. Send us your requirements.

## FOR SALE BY

**Marr-Galbreath Machinery Co., 58 Water St., Pittsburgh, Pa.**

Angle & bar bender, No. 9 Buffalo.
Bender & straightener, No. 4 H. & J.
Blowers, No. 3 Stur., pressure.
Blowers, pos. pres., 2, 2½ & 5" outlet.
Bolt cutters, Acme 6", Landis 2½".
Bolt cutter, 2" Acme, sgl. 2½" head.
Bolt cutter, 2" Acme, dbl., Landis hd.
Bolt cutter, 1½" Acme, triple head.
Boring mills, Rockford, 2" & 3" bar.
Boring mill, No. 21 Lucas hor., 2½" bar.
Boring mill, vertical, 72" Betts.
Boring mill, vertical 84", 2 heads, 220 v., d. c. motor, (near new).
Brake or press, 10' Robinson, toggle.
Bulldozers, Nos. 24, 6 & 30 W. W
Bulldozer, No. 1 W-W, clutch pulley, A-1.
Compressor, 15x9x10 Bury, motor.
Compressor, 2500 cu. ft., L. D. G., a. c. motor.
Compressors, Curtis 2½x3" & 4½x4½".
Compressor, 7"x6", Ind Rand.
Compressor, 1300, 888, 589 cu. ft., m. d.
Drills, radial, 3' Prentice; 3' Fosdick.
Drills, 36" Hoefer; 24" Aurora, s. h.
Drill, 13" Washburn sensitive.
Drill, 28" Barnes, sliding hd., b. g.
Drill, 20" Rockford, sl. hd., q. c. g.
Drills, 22" Aurora upright (2).
Drills, No. 2 Colburn, mfg. type, (4).
Drill, Allen, 20" sensitive, 4-spdl.
Drill, heavy duty, 24" Foote-Burt.
Exhausters, No. 8 Buffalo.
Filing mch., Hartford, bench, ⅞" st.
Forges, hand, champion, Nos. 42, 45, 143, 145.
Forging machines, 1½, 2, 2½ & 3".
Gear cut., No. 11 univ. Dwight Slate.
Gear hobber, No. 12 Barber-Colman.
Grinder, No. 60 Head internal.
Grinder, Gardner, 16" disc & ring w.
Grinder, Diamond dbl. end, 14" wh.
Grinder No. 1 Besley 12" disc, swing and angle table.
Grinder, disc, No. 10 Besley, 18" wh.
Hack saw, Racine high sp., 6x6".
Hack saw, No. 5 Marvel, cap. 6x8".
Hack saw, No. 7-KC Atkins, 8x8, for motor.
Hammers, 80, 100 & 125 lb. Bradley.
Hammer, st. drop., 1500 lb. Erie, new.
Hot saw & burring machine, Acme.
Keyseater, No. 1 Davis, cap. 1" key.
Lathe, gap, 36/60"x12/20' Harrington.
Lathe, 42"x32' Am., grd. hd., m. d.
Lathe, 36"x18' American, g. h., t. a., for constant speed m. d.
Lathe, 32"x14', Draper, 2½" h. s.
Lathe, 30"x14' L. & S., q. c. g., t. a.
Lathes, 27"x10' Lodge & S., q. c. g.
Lathe, 18"x10' Porter, s. b. g., c. r.
Lathe, 18"x8½' Hendey, pl. change.
Lathes, 18"x16' L. & S., & LeBlond.
Lathe, 18"x8' Am., q. c. g., tap. att.
Lathe, 16"x8' Bradford, pl. change.
Lathe, 14"x6' Monarch, q. c. g., t. a.
Lathe, speed, 11"x4' Prentiss, t-rest.
Miller, bench, No. 1 Burke, hand.
Miller, No. 3½ Fox, hand, 24"x6"x14½".
Miller, No. 0½ Cin. pl., 18"x6"x15".
Miller, No. 3 H LeBlond, pl. ind. hd.
Miller, No. 2 Kempsmith universal.
Miller, vertical, No. 5-C Becker, rotary table.
Miller, vertical, No. 4, Becker, rotary table.
Miller, vertical, No. 2½ Becker, motor drive.
Miller, Hendey Lincoln with count.
Miller, Knight duplex, tbl. 8½"x32".
Miller, No. 0 Kempsmith universal.
Miller, No. 2 Cinc'i, plain 32"x8x20.
Miller, vertical No. 0 & 1 Bickett, rotary table.
Motors, 10 h. p., 110 v., d. c.; ½ h. p., 230 v., d. c.
Nut tapper, ½" Acme 6-sp. semi-auto.
Oil separator, No. 2 Roper, belt.
Pipe mchs., 4" Oster, belt drive.
Pipe machine, 8" Saunders.
Planer, 60x60"x12' Pond, 3 hds., m. d.
Planer, 42"x42"x12' Betts, 1 head.
Planer, 42"x36"x20' Cin'ti, 4 heads.
Planer, 30"x30"x 8' Niles, hy., 1 hd.
Planer, 26"x26"x8' Niles, 1 head.
Planer, 24"x24"x6' Gale, 1 head.
Planer, 24"x24"x 5' New H., 1 hd.
Press, No. 27 Bliss, horning, b. g.
Press, No. 56 Toledo, pl. trim., 3" str.
Press, No. 11 Perkins, pl. trim., 4" str.
Press, No. 82 Consolidated horning, 1000 lb.
Press, C-5 Ferracute, o. b. i., plain.
Press, 83 Bliss, 10" stroke, geared.
Press, 65-N Bliss (cam), plain.
Press, tie rod, S. S., dbl. cr., 37" bet. hsgs., 2" str. 14000 lb., belt or mtr.
Press, 152-B Bliss (Cleveland), 35" between housings.
Press, 93-A Toledo, double crank.
Punch, Cleveland 7" tht., cap ⅞"x⅜".
Punch, 15" tht., dbl., ⅝x⅜", arch. jaws
Punch & shear, H. & J., 72" tht., cap. 1½"x1½", motor drive.
Pyrometer, 32 to 3000 deg. F.
Riveter, ⅜" Shuster, style A.
Rivet hammers, 3-A, 4-A, 5-A, hi. sp.
Rivet spinner, 3/16" Grant rotary.
Rolls, bending, 20'x⅝" H. & J., d. e., m. d.
Saw, No. 11½ Higley, cap. 4" blade.
Screw machines, No. 1 Warner & S.
Shaper, 15" Kelly, sgl. grd. crank.
Shaper, 21" American, b. g., crank.
Shaper, 28" Hendey, pillar type.
Shears, Quickwork No. 6, m. d.
Shear, splitting, No. 26 Beloit, cap. ⅜", m. d.

**Marr-Galbreath Machinery Co.—Continued**

Shear, rotary, ⅜" Lennox, 8' gap.
Shear, squaring, 42" Niagara, ft. prw.
Slotters, 16" & 18" Bement-Miles.
Testing mches., 100,000, 200,000 lbs.
Turret lathe, No. 1 Bardons & Oliver.

We Buy, Sell and Exchange.

## FOR SALE BY

**A. M. Stoehr Machinery Co., 560 W. Adams St., Chicago, Ill.**

Blue printing and drying machine.
Bolt cutter, 3-spdl. Acme, 1" cap.
Boring mills, 42" Baush, 54 & 60" Niles, all have 2 heads, and others.
Compressors; 6x4½ Gardner, motor drive; 3½x4 Ingersoll-Rand, belt dr.
Drill presses, 2 & 4 spindle Henry & Wright; 4-spindle Barnes, b. g., p. f., 14", and others.
Gear hobbers, cutters: 12" Cincinnati; 48" & 60" Gould & E., 36" Fellows gear shaper, and others.
Grinders, Heald piston ring (4); No. 3 LaSalle plain and surface; 3x18" Norton, and others.
Hammer, 500 lb. Beaudry, & others.
Lathes, 22" to 44" McCabe; 14x6 Rockford, q. c. g., late type; 18x8 Barnes, heavy duty; 15 & 24 spinning, and others to 60".
Oil extractors, centrifugal, (8).
Pipe machines, 2" & 6" Jarecki.
Milling mchs., No. 25 Becker plain; No. 0 Bristol hand; No. 0 Rockford plain; No. 2 Van Norman duplex; No. 3 Thurston dieing, and others.
Punch & shears, No. 4 L. & A., d. e., ¾" thru ¼"; No. 14 W., d. e., 15" throat, and others.
Punch presses, No. 16 Bliss horning; Nos. 18, 19 and 20 Bliss; No. 126 Ams; No. 10 Torris Wold, o. b. i.; Nos. 48 & 50 Crosby; No. 69 Stoll s. s.; No. 1 L. & A., ⅝" cap., will punch 1½ thru 1" and others.
Riveters, No. 5-A High Speed.
Saws, 9x9 Sterling high speed; 12x12 Racine high speed, and others.
Screw machines, Nos. 2 & 3 Foster (12); Nos. 52 & 53 Acme, others plain and automatic.
Shears, Pittsburgh alligator, 1½".
Welders, both spot and butt.
Wire strai't'g mche., 3/16" Shuster.

## FOR SALE BY

**Jones Machine Tool Co., 528-532 E. Front St., Cincinnati, O.**

LATHES.

14"x 6' Hendey, tool room, (2).
14"x 6' Bradford, quick change.
14"x 6' Monarch, qck. chg., s. p., geared head, (2).
16"x 6' Lodge & Shipley, qck. chg.
18"x10' Lodge & Shipley, grd. hd.
20"x12' Greaves Klusman, q. c.
30"x12' H. S. & Gamble, q. c.
30"x16' Reed, l. c., cone drive.
48"x24' Niles, triple geared.

MILLERS.

No. 2 Hendey universal.
No. 1½ Brown & Sharpe, plain.
No. 3B—Brown & Sharpe plain.
No. 2 Kempsmith universal.

PLANERS.

30"x12' Gray.
30"x 8' Gray, 1 head.
24"x 6' Powell.
42"x36"x26' Cincinnati, 2 heads.

PRESSES.

Nos. 4 and 8 Niagara.
No. 2 Robinson, o. b.
No. 6 Toledo, o. b. inc.
No. 4 Stiles b. g. punch.
No. 6 Whiting punch.
No. 8 Long & Allstatter punch.
No. 20 Bliss, o. b. inc., (5).
Horning presses, Toledo and Bliss.

SHAPERS.

16" Stockbridge, b. g. crank.
21" Smith & Mills b. g. crank, (2).
21" American, back geared crank.
24" Kelly back geared crank.

MISCELLANEOUS.

Bolt cutters, 4" Acme.
Bulldozer, No. 1 Williams & White.
Drill presses, 24" Sibley & Ware (4).
Gear cutter, 48" Brown & Sharpe.
Gear hobber, No 12 Barber-Colman.
Grinder, No. 60 Heald, cylinder.
Grinder, 10x50 Norton.
Grinder, surface, No. 2 Brown & S.
Grinder, abrasive surface.
Grinder, Brown & S., planer type.
Square shears, 516A Toledo, power, 14 gauge, 15" gap.
Square shears, 30" Bertsch, foot power, 15" gap.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Atlantic Manufacturing Company, - - Wilmington, Del.**

BELTING.

Fine lot of used reconstructed leather belting. Also several sizes new stock and pressed steel pulleys. Special prices. Write.

---

### FOR SALE BY

**Brownell Machinery Co., - 11-13 Eddy St., Providence, R. I.**

BORING MILLS.

24" Bullard, New Era.
24" Bullard rapid production.
30" Baush vertical.
No. 1 Cleveland horizontal, 2½".

DRILLING MACHINES.

26" Henry & Wright sens. radial.
25" Weigel, sliding head.
22" Snyder, stationary.
14" Francis Reed.
16" Allen, h. s., b. b.
3-spindle Reed-Prentice.
3-spindle Cincinnati.
5-spindle Henry & Wright.
4-spindle No. 34 A Demco, bench.
3-spindle No. 34A Demco, bench.
No. 2 Langelier h. s., b. b. bench, 11/32".

GEAR CUTTERS.

Whiton hand.
No. 12 B. & S., universal, 12x8.
No. 13 B. & S. automatic, 18x4.
B. & S. automatic, 26"x8.

GRINDERS.

No. 12 B. & S. plain 8x36.
No. 1 Norton univ. tool & cutter.
No. 2 B. & S. tool & cutter.
20" Taylor & Fenn wet tool.
Iron frame grindstone.

LATHES.

11"x 4' Mann.
12"x 5' Reed plain turning, taper, oil pan.
14"x 6' Monarch, q. c. g.
14"x 6' Rockford, economy.
16"x 8' Sidney standard, q. c. g.
14"x 6' Vernon, taper, draw-in, oil pan, chuck.
18"x 8' Monarch.
18"x 8' Hamilton.
20"x 8' Rouisted.
26"x16' Reed, taper.

PLANERS AND SHAPERS.

17"x17"x 5' Whitcomb.
22"x22"x 5' Whitcomb.
24"x24"x 6' Powell.
26"x30"x14' Whitcomb-Blaisdell.
30"x30"x12' Bement Miles.
54"x42"x14' Gray, spur gear, 3 hds.
15" Hendey friction shaper.
15" Potter & Johnston shaper.
24" Potter & Johnston shaper.

ROLLING MILLS.

4x6 Standard.
5x 8 McWilliams.
12x18 Standard.
12x15 Hoagland hot rolling mill.

PRESSES.

No. 2½ Bliss inclinable, 3".
No. 3 Standard inclinable 2".
No. 4 Manville, pillar pattern, 1½".
No. 1 Standard broaching and drawing, 7", 20 tons.
No. 54 Niagara geared, 4".
50 lbs. Standard plain drop.
100 lbs. M. & G., plain drop.
200 lbs. Standard plain drop.
200 lb. Standard automatic drop.
No. 24 Atlas arbor press.
No. 7 Greenerd arbor press.

SCREW MACHINES.

No. 2 Southworth, wire feed.
1½x18 Pratt & Whitney, b. g., p. f.
No. 2½ Garvin, g. f. h., 1 7/16".
2½x24 J. & L. flat turret, chucking.
3x36 J. & L. flat turret, bar & chuck.
No. 2P Potter & Johnston piston and piston ring.
⅝" Cleveland model "B" automatics, good as new.

MISCELLANEOUS.

Broaching machine, No. 0 La Pointe.
Charging outfit, G. E., 100 batteries, 45 k. w. motor, 550 volts, 60 cycle, 3 phase, new.
Cornice brake, 4'.
Coupling, No 2 Almond ½ turn, 10 h.p.
Die filing machine, Thurston.
Oil extractor, No. 2 American.
Pipe machine, No. 7 B Jarecki, 3".
Shaft straightener, Rockford 3", 10' bed.
Shears, 52" Hercules, foot squaring.
Slotter, 12" Bement-Miles.
Straight edge, P. & W. & Sharpe, 6'.
Swaging mch. No. 2 Standard rot.
Tapper, No. 2 Garvin vertical.

WOOD-WORKING MACHINES.

Band saw, 26" Crescent.
Jig saw, No. 1 Beach.
Saw table, No. 650 Dover.
Saw table, Rollston double arbor.

## FOR SALE BY

**A. F. Strafer, - - - 30 Church St., New York City**

### BORING MILLS, VERTICAL AND HORIZONTAL.

72" Pond, belted motor drive.
24" Bullard, v. t. l., New Era.
3" & 4" bar Rochester, floor type.
51" Bullard, belt drive.
53" Niles-B.-P. rapid trav., d. c., m. d.
No. 2 Rochester, 3" bar, s. p. d.
60" Niles-B.-P., vertical, s. p. d.
No. 3 Universal horizontal, s. p. d.
12' Betts, geared feed, belt drive.
96" Bickford standard, belt drive.
61" Bullard New Era, v. t. l.
6" bar Niles horiz., knee type.

### DRILLS, UPRIGHT AND RADIAL.

6' Niles-Bement-Pond universal.
6' Baush, belt drive, new.
5' Baush, belt drive.
4½' Dreses, motor drive.
4' Fosdick, gear box.
No. 310 Baker, heavy duty.
26" Sibley, sliding head.
26" Barnes, sliding head.

### GRINDERS

No. 16 Blanchard, motor drive.
Springfield Brandes, 12x48" surface.
No. 60 Heald cylinder.
10"x24" Landis, self contained.
10"x30" Webster & Perks univ.
No. 2 Brown & Sharpe, surface.

### LATHES

52"-64"x26' Johnson.
50"x30' Pittsburgh, quick change.
44"x24' Niles-P.-B., t. g., belt drive.
38"x34' Pond, 2 carriages.
30"x16' Bradford.
20"-38"x16' Rahn Larmon, slide gap.
20"-42"x12' Fay & Scott, slide gap.
20"x 8' American, quick change.

### TURRET LATHES.

3½"x36" Cin'ti Acme flat, modern, geared head, chuck equipment.
24" Gisholt, 6¾" hole thru spindle.
21" Gisholt, 2-step cone, modern.
2½x26" Greenlee, chuck equipment.
24" Steinle, new, half price.

### MILLING MACHINES.

No. 4 Cincinnati plain horiz., h. p.
No. 4 Cincinnati h. power vertical.
No. 3 Brown & Sharpe, pl. cone type.
No. 3 Cincinnati vert., high power.
No. 4 Cincinnati h. p. univ.
No. 2 Cincinnati h. p. univ.
30"x14' Ingersoll, 4 heads.
36"x12' Ingersoll, 2 heads.

### PLANERS.

150"x25', 4 heads, stand, belt drive.
120"x25' Sellers, motor drive.
60"x60"x16' Gray, 4 heads.
54"x54"x16' Sellers, 4 heads.
48"x48"x14' Patch, 4 heads.
42"x42"x10' Clevel'd open s., 3 hds.
36"x36"x8' Sellers, 4 heads, belt dr.
28"x28"x10' American, 1 head, b. d.

### PIPE MACHINES AND BOLT CUTTERS.

4" Saunders, belt drive.
Little Giant No. 732, 1" capacity.
1¼" National bolt cutter.
2½" to 10" Curtis & Curtis.
Jarecki 2½", a. c. motor drive.
1" Landis, single lead screw.
2" Acme bolt, gear box.
1½" bolt, Wiley & Russel.

### PUNCHES AND SHEARS.

No. 6 Quickwork rotary.
No. 10 Quickwork, 60" throat.
No. 4 H. & J. double, 48", t. a., c. m.
No. 2 H. & J. double angle.
No. 6 H. & J. 60" thrt., a. c. motor.
Buffalo armor pl. "U" 25 comb.
No. 5 H. & J., 48" t., a. c. motor.
No. 4-A Quickwork, motor drive.
Morgan & W. gate shear, 9'. ⅜" cap.
Pels type beam shear, 6" to 24" cap.
Badger State 9C., 24" t., ⅜" d. e.
Long & Allstatter No. 5, 24" t., s. e.

### ROLLS.

No. 6 Hillis-Jones 25', 1" capacity.
20' N.-B.-P., 18" top roll, latest.
7' Sellers, ⅜" cap., drop end.
12' drop end, 7/16" capacity.

### SHAPERS.

25" Smith & Mills b. g. crank.
16" Milwaukee b. g. crank.
24" Potter & Johnston universal.
24" Cincinnati, b. g.

### MISCELLANEOUS.

Air drills, Thor, $20 up.
Air hammers, 2" & 6", $15.
Brake, tinsmith's, 96".
Gas engine, 15 h. p. Novo 2 c., new.
Hammer, 3000 lb. Bell single frame.
Hammer, 3000 lb. Bell double leg.
Hammer, 600 lb. Erie, forging.
Header, Ajax 1¼", all steel.
Heading machine, 30" Quickwork.
Jointer, 12" American.
Saw, No. 6 Nutter & B., a. c. motor.
Saw table, universal, American.
Screw machines, automatic, all sizes.
Surfacer, single, 30" American.
Tapping attach., 1" Errington.

## SECOND-HAND MACHINERY

### FOR SALE BY

**J. L. Lucas & Son, Inc., - 3 Fox Street, Bridgeport, Conn.**

GRINDERS.

14" Pratt & W. vert., with rot..$ 950.
No. 2 Reid, with magnetic chk. 375.
Production hand surf., (5) ea.. 100.
No. 1 Brown & S. full univ.... 500.
No. 2 Brown & Sharpe univ.. 800.
W. & M., magnetic chuck..... 375.
10x50 Norton cylindrical..... 575.
10x80 Norton cylindrical..... 1250.
No. 11 Brown & Sharpe plain 450.
12x24 Modern self-cont., (2) ea.$ 675.
No. 6 Besly, adjustable discs.. 400.
No. 2 Gardner disc grinder..... 250.
No. 60 Heald cylinder, rebuilt, (7) each ..... 900.
No. 1½ Cincinnati tool & cutter 375.
No. 34 Van Norman internal... 300.
No. 1 Landis internal, (4) ea.. 600.
No. 70 Heald internal, (2) ea... 700.

LATHES.

Dalton B-6, latest type, chasing attachment.....$ 225.
9"x14" Porter-Cable, (4) each. 300.
12"x9' Hendey, m. d., comp., collets ..... 700.
14"x 8' Hendey lathe..... 850.
14"x10' Hendey, comp., collets 925.
14"x 8' LeBlond lathe..... 325.
15"x 6' Monarch, qck. change 475.
16"x 8' Hendey lathe..... 775.
16"x 8' Hendey, yoke hd., eq. 1000.
16"x 8' Lodge & Shipley.....$ 450.
18"x 8' New Haven eng., q. c. 475.
18"x 8' Cincinnati, severe duty, q. c., new..... 750.
20"x 8' LeBlond, q. c., each.... 600.
20"x10' American, q. c..... 650.
30"x17' Pond engine lathe ..... 750.
32"x12' Bridgeford, grd. head, 90% new..... 1750.
32"x18' New Haven, 99% new.. 1800.

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### FOR SALE BY

**Machine Tools Sales Company**

**236 Commercial Trust Bldg., - - - - Philadelphia, Pa.**

Attractively Priced Machinery from a Modern Plant

BORING MACHINES.

14' & 20' Betts vert., 2 swiv. hds., belt.
10' Niles vert., 2 swiv. hds., mtr. dr.
8' Niles vert., 2 swivel heads, belt.
84" Bickford vert., 2 swiv. hds., belt.
72" Gisholt vert., 2 swiv. hds., m. d.
42"x24" Bullard New Era, vertical.
36" King vert. turret, swings 44½".
No. 5 Barret cyl., 7" bar.
No. 31 & No. 32 Lucas, 3" & 3½" bar.
3-A Universal horizontal, bar, belt.

DRILLING MACHINES.

6' American plain & univ. radials.
2½', 3', 4' & 5' radials, various makes.
Baush mult. 28" round hd., 14 spdl.
Western 25" round head, 6 spindle.
Nos. 313 & 310 Baker h. d. drills.
26" Aurora, sliding head.
Sipp and Leland-Gifford sensitive.
Model "F" Turner 4-spindle turret.
Quint turret drill, 6-spindle.

GRINDERS.

12"x36" univ., 10"x30" plain Landis.
No. 1 Brown & Sharpe surface.
No. 1 Norton universal cutter and tool.

LATHES, TURRET AND AUTOMATICS.

24" Libby turret lathes.
Fay automatics, latest type.
No. 3-A W. & S. hollow hex. turret.
No. 2-A W. & S. universal turret.
No. 2 old style hollow hex. turret.
No. 4 W. & S. universal turret.
30 Other W. & S. and B. & O.

ENGINE LATHES.

84"x40' Putnam, geared head, motor drive.
65"x35' Pond, geared head. mtr. dr.
50"x15' New Haven, blocked to swing 60", cone drive.
36"x18' Lodge & Shipley, s. p. d.
36"x12' New Haven, cone drive, sgl. back geared.
32"x18' American, geared head, arranged for motor drive.
27"x10½' American cone.
50 Others, 14"x6' to 24"x16'.

MILLING MACHINES.

No. 10 Niles-Bement-Pond vertical, motor drive.
Nos. 4 & 5 Cincinnati plain, cone dr.
No. 2-B Kearney & Trecker h. p.
No. 3 Cin'ti vert. s. p. d. latest type.
45 Other vertical plain & universal.

SHAPERS.

24" Gould & Eberhardt cone drive.
24" American, vise and countershaft.
12 Other shapers, standard makes and sizes.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Chas. Mollitor Machinery Co., 118-124 S. Clinton St., Chicago, Ill.**

### LATHES.

36"x14' American, q. c. g.
33"x10' LeBlond, q. c. g., hvy.
30"x14' LeBlond, q. c. g., heavy.
24"x16' LeBlond, plain.
24"x12' Reed Prentiss, geared head.
26"x10' Niles, q. c. g.
24"x12' Walcott, q. c. g.
24"x12' South Bend, taper att.
24"x10' Lodge & Shipley, grd. hd.
18"x 8' Greaves Klusman, q.c.g.,(2).
18"x 8' Sidney, q. c. g.
18"x 8' Hendey, taper, draw-c. att.
16"x 6' Hendey, taper attach.
16"x 8' Pratt & Whitney, q. c. g., taper, relieving attachment.
16"x 6' Bradford, q. c. g.
16"x 6' Walcott, q. c. g.
14"x 6' Hendey, taper, draw att., (2).
13"x11' Sebastian.
12"x 5' Pratt-W., taper, draw collets.
10 Cataract, Pratt & Whitney, Rivett and Elgin bench lathes.

### MILLERS.

24" Bullard.
No. 3 LeBlond universal.
No 2 Kempsmith universal.
No. 1B Milw'kee, sgl. pulley, dbl. arm.
National Transit Co. plain.
No 3 Becker vertical.
No. 4H Becker vertical (2).
Gooley & Edlund, production.
2½" Twin spline miller, P. & W.
Bristol, Whitney, U. S. hand.

### RADIALS AND DRILL PRESSES.

36" American.
36" Mueller Tool Co.
30" Dreses, Mueller.
24", 26" Prentiss, Cincinnati, etc.
2, 3 spdl. 24" Aveys, 1" cap. (3).
4 spdl. Gooley & Edlund, ⅞" cap.
1, 2, 4, 6 sp. Allen, Aveys, ⅞" cap. (8).
1, 2, 4 spindle Leland Gifford, ⅞" cap.
2, 4 spdl. Leland Gifford, ⅞" cap.
Large variety 14", 16", 20" drills.

### GRINDERS.

Nos. 2 & 3 Brown & Sharpe univ.
No. 3 B. & S. universal.
Nos. 1 and 2 Cincinnati universal.
Oakley universal.
No. 1 B. & S. cylindrical.
4"x20" Norton cylindrical.
No. 2 Wilmarth & Morman surface.
No. 11 Brown & Sharpe.
Fitchburg, Landis, Greenfield.
18", 26", 40" disc, Gardner, Healy.
No. 23 Brown & Sharpe cylinder.
Nos. 60 & 65 Heald cylinder.

### SHAPERS AND BOLT CUTTERS.

18" Gould & Eberhardt.
20" Milwaukee.
18" Hollingworth.
17" Smith & Mills.
1" Landis bolt cutter.
1⅝" Landis bolt cutter, 2-sp.
1½" Acme, dbl. hd., lead screws.
2" National Acme.
1" and 1½" Geometric.
4" Merrill pipe machine.

### SCREW MACHINES AND TURRET LATHES.

Jones & Lamson dbl., sgl. spindle.
Nos. 0, 1, 2 B. & S. semi-auto.
No. 6 Foster, power long. & cross fd.
Nos. 0, 1, 2, 3 Foster, Bardons & Oliver, Garvin, W. S., P. & W.
1" & 1¼" cap. Acme, b. g., frict. h.
¾", 1½", 2", 2½" Cleveland auto.
Nos. 0 & 00 B. & S. automatics.
⅝" Gridley 4-sp. automatic.

### PUNCH PRESSES AND SHEARS.

No. 6 Bliss, Stiles pattern.
No. 5 Niagara inclinable.
No. 4 Niagara inclinable.
No. 3 Long & Allstatter inclinable.
No. 3 Walsh inclined.
No. 5 Robinson.
No. 3 Black & Johnson.
10" power squ. shear, 18 ga.

### GEAR CUTTERS.

28" No. 3 Brown & Sharpe auto.
No. 13 B. & S., bevel & spur, (2).
Nos. 1 & 1½ Standard auto., (8).
Waltham automatic, (4).
No. 10 Bilton gear hobbers, (4).

### MISCELLANEOUS.

Beaders, power.
Corrugating machine, steel, 7"x36", rollers 4"x10'.
Hammer, 60 lb. Bradley.
Rivet spinners, Grant.
Shears, circle and slitting.
Shears, 60" serpentine & splitt'g, (7).
Spot welders, Toledo and Thomson.
Tapping machines, all sizes.
Wire straighteners, 3/16"-⅜" Schuster.
Drill & lathe chucks, Stromberg periodograph, time clocks, time stamps, etc.

**WHEN YOU INQUIRE** of advertisers won't you kindly tell them where you saw it? Just say "Hitchcock's List;" that will be sufficient. They like to know what produces their inquiries, and the publisher is very anxious to have them know it.

## FOR SALE BY

**F. H. Allen, - - - - Donaldsonville, La.**

Geared ladle, second-hand. 38" deep, 49" wide at top, splendid condition.
Hydraulic wheel press, brand new, latest improved, 48" between tie bars, 150 tons capacity.
Have no use for these machines and will sell cheap.

---

## FOR SALE BY

**Donahue Steel Products Co., - 204 N. Jefferson St., Chicago, Ill.**

Bulldozers, Nos. 1, 2, 3, 4, 5 & 6 Williams & White.
Gas furnace, American No. 64 heating machine for blueing.
Hammers, cushioned helve, 25, 40, 60, 80, 100 & 200 lb. Bradley.
Hammers, upright, 50, 100, 200, 300 & 500 lb. Bradley.
Hammers, upright, Bradley strap, 30, 50, 75 and 100 lb.
Hammer, crank lift drop, Williams & White No. 8.
Hammer, board lift drop, 800 lb. Williams & White.
Punch, s. c., No. 1 Long & A., 1½" thru 1", arch. jaw, motor drive, 3" stroke.
Punch, Rock River, ¾" thru ½", 24" throat.
Punch & shear, d. c., No. 14 Williams & White, 1¼" thru 1".
Punch & shear, Cleveland, e. f., 30" throat, arch. jaw, gag socket punches, 1¼" thru 1".
Saws, hot, Nos. 2 & 3 Ajax.
Shears, bar, Long & Allstatter, table cast on slant, cap. 1¼" round.
Shears, bar, Long & Allstatter No. 2, table cast on slant, cap. 2" round.
Shear, alligator, Dolger & Kirstin, capacity 1½" round.
Shears, Pels 5" & 6"; United Engineering 4" guillotine.
Storage battery elevating platform truck, Automatic Transportation Co.
Threading machines, one No. 1; one 1½" sgl. spdl. Landis; two 1" dbl. spdl. Landis, with lead screws; one 2" single spindle Morgan Reliance.
Thread rollers, one each ½", ¾", ¾" and ⅞".
Tumbling barrels, 24x50 and 30x50 Sly. (2).
Upsetters, 1", 1½", 4" Ajax; 1" Acme; 1½", 2" National.
All of the above in our Chicago stock.

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## FOR SALE BY

**McCoy-Brandt Machinery Co., 210-14 Penn Ave., Pittsburgh, Pa.**

Air compressors, steam, 909, 2052 and 2200 cu. ft.
Air compressor, 212 cu. ft. Chicago, portable, oil driven.
Air compressors, 116 & 442 cu. ft.
Boring mill, 42" Bullard, New Era t.
Boring mill, 48" Colburn, 2 heads.
Boring mill, 10' Niles, 2 heads.
Bulldozers, Nos. 2, 4, 6 and 30.
Drills, radial, 5' Prentice, s. p. d.
Forging machines, 2" and 3".
Grinders, 12"x48" Cincinnati plain.
Grinder, 10"x72" Norton pl., m. d.
Grinder, Gisholt universal tool.
Grinder, 36" Diamond wet tool.
Grinder, 10x32" Ott universal.
Grinder, No. 4 Gardner double disc.
Grinder, 20"x144" Landis, m. d.
Lathes, 14"x6' Hendey, grd. hd., m.d.
Lathe, 17"x12' LeBlond, g. h., t. a.
Lathe, 19"x14" LeBlond, grd. hd.
Lathe, 24"x26' American, q.c.g., m.d.
Lathe, 27"x18' L. & S., m. d., t. a.
Lathe, 30"x18' L. & S., m. d., t. a.
Lathe, 36"x20' Sidney, q. c. g., cone.

Millers, horiz., Nos. 3 & 5 Cincinnati.
Miller, No. 14-MP Garvin plain.
Miller, vertical, No. 0 Bickett.
Millers, vertical, No. 3 Brown & Sharpe, motor drive.
Millers, Nos. 2, 5C & 6 Becker vert.
Nut tappers, 10 spindle, rotary, cap. 1½" nuts.
Pipe machines, 12", 10", 8", 4" & 2".
Planer, 36x36x12' Powell, 3 heads, like new.
Planer, 30x30x8' Gray, 2 hds., 98%.
Planer, 30"x30"x8' Flather, 1 head.
Planer, 48"x48"x16' Gray, 4 hds., m.d.
Press, No. 68 Bliss, double acting.
Punch, 48" thrt., 1" thru 1", arch. jaw.
Punch, dbl. end, 20" throats, 1½"x1".
Punch, 24" throat H. & J., ¾"x¾".
Rolls, bending, 16'x¾" Wickes, m. d.
Shear, angle, 6"x6" L. & A. dbl., m.d.
Shears, guil., cap. 2½" and 2" and 1".
Shear, rotary bevel, cap. ¾", m. d.
Shear, rotary, cap. ½", with circ. att.
Turret lathe, 18" Libby, like new.

## FOR SALE BY

**M. A. Wertman, - - 505 Superior Bldg., Cleveland, Ohio**

Amplifying gauge, American, 99%.
Bench centers, 8"x36" B. & S., 95%.
Miller, No. 1 Kempsmith univ., 98%.
Miller, No. 1 Cincinnati univ., 90%.
Miller, No. 3 Garvin duplex, 90%.
Shaper, No. 14 Cochrane-B. univ. 90%.
Shaper, 16" Cincinnati, 95%.
Shaper, 24" G. & E. hi-duty, 90%.
Swaging mch., No. 3 Etna, 90%.
Turret lathe, No. 2 Warner & Swasey, bar feed, 90%.
Turret lathe, No. 6 W. & S., p. f., 90%.
Turret lathe, No. 3 Acme, g. h., universal, 95%.

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## FOR SALE BY

**Herman L. Winterer, 943-53 N. Front St., Philadelphia, Pa.**

### LATHES.

43"x17'4½" Bement-Miles.
37½"x14' Johnson d. b. g., q. c. f., t. a.
32"x12' Pittsburgh, heavy duty, q.c.g.
27"x12' Bullard.
26"x11' Wickes, q. c. g.
28"x10' Niles, q. c. g.,
25"x14' Hendey, q.c.g., taper attachment, oil pan, (2).
24"x14' Porter.
21½"x8' LeBlond.
20"x8'6" Walcott, d. b. g., q. c. g., (2).
20"x 8' Whitcomb Blaisdell, q. c. g.
19"x10' Draper, patent head.
18"x 8' Davis q. c., d. b. g.
18" x 7' Chard, d. b. g., semi q. c. g.
18"x6' to 8' lathes. (6).
16"x 8' Greaves & Klusman, b.g., t.a.
And many others.

### TURRET LATHES.

3½x28" Pond, triangle.
3x36" Pratt & Whitney, hollow hex.
20" Acme flat, 2½", h. s. motor drive.
20x7' 6" Pratt & Whitney, back grd.
20x7' Bridgeport, 2½ h. s.
19"x7' Fay & Scott, back grd.
No. 22½ Garvin Monitor.
No. 3 Kempsmith.
14"x 6' Warner & Swasey.
16"x6' Johnson, back grd.
No. 3 Bardons & Oliver back grd.
14½"x5' 3" Pratt & Whitney, (2).
No. 3 Foster Kimball.
14"x8' Filsmith, q. c. g.
14 22"x6' Barnes, extension gap.
10"x4' Sellers.

### DRILL PRESSES.

42" Gang radial, s. p. speed box.
40" Barnes horizontal radials, (2).
36" Bickford radial, circular base, motor driven.
30" Davis & Egan radial.
28" Rockford, q. c. g. feed (2).
24" Aurora.
20" Champion, stationary head.
20" Excelsior, stationary head, (2).
Henry & Wright sensitive.
Plain drills, all sizes.
Drill presses, assorted sizes.

### MILLING MACHINES.

38"x6' Ingersoll horizontal slab.
No. 5 Cincinnati, table 9½x50½".
No. 15 Garvin, table 12x42".
No. 3 Becker Brainard, table 12x40".
No. 3 Hendey-Norton, q. c. g.
No. 5-C Becker vert., rotary table.
No. 5-B Becker vert., table 14x43.
No. 3 Becker vert., rotary table.
No. 7-H Lincoln type Becker miller.
No 1 Milwaukee plain.

### PLANERS AND SHAPERS.

12'x10'x25' Sellers planer, 4 heads.
30"x30"x8' Hewes & Phillips planer.
30"x30"x8' Putnam planer.
26½"x26"x 6' Hendey planer.
24"x24"x6' Sellers planer.
48" Morton draw-cut shaper.
39" Pedrick & Ayer, open side.
14" Warren shaper.

### MISCELLANEOUS.

Boring mill, car wheel, 60" Newton.
Boring, drilling and milling machine, 17½" Bement Niles horizontal.
Grinder, 19½"x5' Landis universal.
Grinder, No. 1 Norton universal.
Grinder, disc, No. 17 Besly.
Grinder, disc, No. 14 Besly.
Grinder, disc, No. 1 Besly.
Hammer, 15 lb. Bradley helve.
Hammer, 25 lb. Little Giant, m. d.
Hammer, 40 lb. Bradley, helve.
Hammer, 60 lb. Hotchkiss.
Hammers, 60 lb. Bellefonte upright, 3
Hammer, 500 lb. Merrill board drop.
Hammer, 750 Merrill, board drop.
Hammer, 1000 lb. Merrill board drop.
Hammer, 1250 lb. Bell steam.
Keyseater, 18" stroke Morton.
Punch presses, all sizes, (55).
Punch & shear, Industrial Wks. d.c., capacity ½" in ⅜", squaring ½"x6".
Riveter, air, 6' gap Allen, cap. 1½".
Riveter, air, 25" gap Allen, cap. 1½".
Slotter, 14" Niles.
Tooth rounding mche., Schuchardt & Schutte.

Large assortment of General Machinery. Send for Complete Price List.

## FOR SALE BY

**Delta Equipment Co., - - 148 N. 3rd St., Philadelphia**

### ENGINE LATHES.

12"x4' 8" Cleveland motor driven bench.....$ 300.
14"x 6' American, geared head 600.
15"x 8' Sebastian, gap..... 325.
15"x 8' Carroll-Jamieson, q. c. 400.
17"x 8' Greaves-Klusman..... 300.
18"x 8' Prentice, q. c.....$ 500.
19"x10' LeBlond, q. c., taper. 675.
20"x 9' Chard, d.b g.,q.c., taper 750.
24"x10' Carroll, semi q. c..... 600.
24"x13' Chard, d.b.g.,q.c., taper 1000.
30"x14' L. & S.,d.b.g ,q.c., taper 1400.

### MILLING MACHINES

No. 2 Owens universal.....$ 700.
No. 2B Brown & Sharpe, all geared spindle, motor driven 750.
No. 3 Hendey.....$ 575.
No. 4 Cincinnati universal, motor driven ..... 1750.

### SHAPERS.

15" Kelly .....$ 300.
16" Cincinnati..... 450
16" Hollingworth, b. g..... 450.
20" Gould & Eberhardt, back geared .....$ 850.
24" Kelly, back geared..... 675.

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## FOR SALE BY

**Peninsular Machinery Co., 429-31 E. Jefferson Ave., Detroit, Mich.**

### LATHES.

13"x 5' South Bend, l. c. g.
13"x 5' Champion, l. c. g.
13"x 5' Blount speed lathe.
14"x 6' Prentice, l. c. g., (2).
14"x 6' Bradford, q. c.
14"x 6' Carroll-Jamieson, (4).
14"x 6' Flather, l. c. g.
14"x 6' Reed, l. c. g., (5).
14"x 6' Rockford, l. c. g.
14"x 8' Monarch, l. c. g., taper.
16"x 8' Bradford, l. c. g.
16"x 8' LeBlond, quick change.
16"x 8' LeBlond, r. p., g. h.
17"x10' LeBlond auto.
18"x8' Monarch, q. c. (2).
21"x11' LeBlond, all geared, (2).
26"x10' LeBlond crankshaft, (2).
36x36 Lo-Swing.

### DRILLING MACHINES.

3-spdl. Henry & Wright, h. s., b. b.
22½" Sibley all-geared, p. f., with tap.
22½" Sibley all-geared, p. f.
23" Rockford, s. h., with tapper.
24" Cincinnati, s. h.
26" Barnes, s. h., b. g., p. f.
28" Barnes, s. h., tapper.
26" Hoefer, st. h. d.
No. 3 Avey, h. s.
No. 3 Baush multiple.
25" Fosdick s. h. all-geared tapper.
3' Western plain radial.

### MILLING MACHINES.

No. 6 Whitney hand.
United States hand.
No. 0 Steptoe, b. g. and p. f.
No. 0 Farwell q. c.
Briggs type A, (2).
No. 12 Brown & Sharpe.
No. 32 Kempsmith.
No. 1½ Cincinnati plain.
12" Cincinnati plain manufacturing.
No. 2 Brown & Sharpe plain.
48" Newton 2-spindle.

### TURRET SCREW MACHINES.

1" Dreses, p. h. and p. f.
1½" Defiance, f. h.
2" Milholland, f. h.
2x26 Pratt & Whitney, f. h.
2½x26 Pratt & Whitney, a. c.
No. 4 Warner & S. f. h. turret lathe.

### GRINDERS AND POLISHERS.

No. 1 Brown & Sharpe universal.
10x24 Landis plain.
No. 2 Gardner disc grinder.
No. 24 Gardner vertical.
No. 2 Oesterlein universal.
No. 70 Heald internal.
No. 50 Heald cylinder.
No. 210 Heald magnetic.
20" Blount wet grinders, (2).
No. 4 Webster & Perks polishing.
Bennett & O'Connell dbl. sp. pol.
No. 23-B Valley City disc.
No. 220 Badger automatic.

### MISCELLANEOUS.

Band saw, 6" Napier.
Centers, bench, Brown & Sharpe.
Centering machine, 3' Whiton.
Cutting-off mch., 4" Hurlbut-Rogers.
Filer, No. 2 Cochrane & Bly.
Gear tester, bevel, Gleason.
Hammer, drop, No. 5 Williams-W.
Lapping mchs., Bethel-Player, (2).
Metal cutter, No. 1 Gray.
Screw slotter, No. 1 National Acme.
Threader, 2-sp. Webster & Perks.
Threader, H. & G. 9/16 automatic.
Tooth round's, 12" Rochester aut. (2).
Tumbling barrels, No. 3-S Globe, (2).

## FOR SALE BY

**Bennett Machinery Co., - 30 Church St., New York City**

Boring mill, 51" Bridgeport, 2 hds.
Grinder, univ. cutter and reamer, Draper & Hall.
Lathe, 24"x12' Johnson, geared hd., quick change, taper.
Pipe machine, 8" E. C. & B.
Pipe machine, 3" Jarecki No. 7B.
Planer, 54"x12' Pond, 4 heads.
Planer, plate, 18' Niles.
Shaper, 20" Walcott heavy duty, 95%.

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## FOR SALE BY

**Tuber, Velick & Co., Inc., - - 628-630 W. Lake St., Chicago, Ill.**
**Telephones: Monroe 4199-6813. No Branches**

### PUNCH PRESSES.

No. 3 Walsh.
No. 4 American Can.
No. 7 Beatty, cap. 1¼" in 1".
No. 15 Torris Wold.
Perkins punch presses, ½" str. (20).
Nos. 13 & 15 single end punches.
Long & Allstatter horn punch, capacity 1¼x1.

### DRILL PRESSES.

14" Excelsior.
20" b. g., p. f., new, $130.
20" & 26" Weigel.
26" Hoefer.
30" Reed-Prentice.
Demco high-speed drills.
Bench type drills.

### MILLING MACHINES.

No. 2 LeBlond.
No. 2 Cincinnati vertical.
No. 2 Cincinnati universal.
No. 3 Kempsmith.
A number of hand millers.

### LATHES.

11"x 5' Sterling.
15"x 8' Sidney, q. c.
16"x 6' Sidney, q. c., (2).
16"x 6' Monarch, q. c.
16"x 8' Canedy-Otto.
16"x 6' Hendey, q. c., taper att.
16"x 8' South Bend, q. c.
17"x 8' Sidney, q. c.
18"x 8' Chard.
19"x10' Sidney, q. c., (2).
20"x 8' Lodge & Shipley, geared head, s. p. drive.
24"x10' Canadian, q. c., d. b. g., (3).
25"x10' Sidney.
Dalton Six.

### PLANERS.

24"x24"x6' Pond.
24"x24"x 8' Putnam.
30"x30"x 8' Fitchburg.
36"x36"x 7' Flather, 2 heads.

### SHAPERS.

16" Smith & Mills.
16" Ohio.
16" Whipp, b. g.
24" Rockford.
24" Kelly.

### SCREW MACHINES.

Millholland.
No. 2 Smith, hand.

### GRINDERS.

No. 2 Manhattan surface.
Gardner No. 2 & No. 6 disc grinders.
No. 14 Besly, disc.
10x36 Thompson, new.
Emery grinders, $2 and up.

### WOOD-WORKING MACHINERY.

Band saws, 36" Famous, new, (10).
Boring mills, Andrew, (3).
Glue jointer, Falls.
Jointers, 4" D. C. Wallace.
Planer, 30" Berlin.
Saw table and jointer combined, portable.
Shapers, double spindle, Whitney and Fay.
Swing saws, Porter, (4).

### MISCELLANEOUS.

Buffers, U. S. and Westinghouse, 8 h. p., b. b.
Cold saw, No. 20 Lea-Simplex.
Hack saws.
Keyseaters, Davis.
Lift trucks, Barrett, 1 ton cap.
Motors, a. c. and d. c.
Paper cutter, Chandler & Price.
Punch & shear, No. C Cleveland.
Radial drill, 3½' Canedy-Otto.
Radial drill, 3½' Cin'ti Bickford.
Time clocks, International.
Trucks—1,000 factory trucks.
Turret lathe, Gisholt.
Woodworking machines.

Leather belting. Pulleys, shafting and hangers.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Clark Machinery Co., 1235-45 St. Clair Ave., Cleveland, O.**

Automatics, Nat'l Acme Nos. 515 & 53
Drill, 20" plain, wheel and lever.
Drill, 22" back geared and p. f.
Grinder, universal.
Lathe, 17"x8' Sidney b. g., q. c. g.
Lathe, 16"x6' Lodge & S. q. c. g.
Miller, No. 2 Cincinnati universal.
Miller, No. 1½ LeBlond, with universal div. head.
Millers, Becker vertical Nos. 2 & 5.
Planer, 42"x42"x8' Gray, 2 heads.
Planer, 24"x24"x6' Whitcomb.
Screw machines, Warner & Swasey Nos. 1, 2, 4 & 6.

Machine tools for every purpose. Send us your inquiries.

### FOR SALE BY

**The O'Brien Machinery Co., 113 N. Third St., Philadelphia, Pa.**

Drill, 32" Aurora, motor driven, tapping attachment.
Drill press, 24-spdl. multiple Natco, motor driven.
Grinders, foundry, Norton heavy duty, (2).
Hammer, 100 lb. Massillon, steam.
Lathe, 22"x11' Lehmann, geared head, taper attachment.
Lathe, 22"x12' Mueller.
Lathe, 24"x12' Schumacher & Boye.
Lathe, 26"x21' Whitcomb-B., mtr.dr.
Lathe, 36"x18' L. & S., taper attach.
Miller, No. 3 Kempsmith universal.
Pipe machines, 2", 4", 6", 8" & 12" Oster, Cox, Eaton-Cole & Burnham and Jarecki makes, belt or motor driven, complete stock.
Planer, 36"x36"x12" Woodward & Powell, motor driven, 3 heads.
Presses, Nos. 18, 19 and 20 Bliss.
Planer, 54"x54"x14' Pond Machine Tool Co., two heads.
Press, No. 54 Toledo gr. str. side.
Punch and shear, No. 3 Hilles & J., dbl. end, motor dr.; punch end, 42" thrt., cap. 1½" thru 1"; shearing end, 36" thrt., cap. 1" plate, 2½" round, 7"x1½" flat, 5"x5"x⅝" angle.
Radial drill, 36" Gang.
Radial drill, 5' Mueller.
Shapers, 12", 14", 16", 21" and 24" stroke, assorted makes.
Turret lathe, No. 6 Bardons & Oliver, wire feed, cabinet base.

### FOR SALE BY

**Brown Machinery Co., - - 2323 N. 9th St., St. Louis, Mo.**

Automatic, Cleveland 2", model A.
Die sinking machine, No. 5 Jackson. Price ..... $ 500.
Drill & tapper, Barnes 26", all geared, good condition. Price ..... 300.
Drill, Baush No. 2 multiple, cap. 30 spdls., rectangular bd. 20x40". Price 1500.
Grinder, No. 14 Gardner, b. b., disk, dry, 20" disks, good cond. Price 400.
Grinder, No. 6 Besly two-spindle disk, 20" disks. Price ..... 350.
Grinders, three No. 2 Gardner single spindle, double disk, with universal tables; good condition. Price, each ..... 175.
Grinder, LaSalle automatic surface, good condition. Price ..... 275.
Grinder, No. 12 B. & S. 8x36" pl., for wet grinding; good condition. Price 450.
Grinder, No. 1 Brown & Sharpe universal, 10x24; good condition. Price 375.
Grinder, No. 14 Besly single spindle ring wheel. Price ..... 400.
Hoist, new Flory No. 14, 8½x10" d. c., d. d. with boiler; A. S. M. E. for 125 lbs. New. Special price ..... 1750.
Lathe, 18"x 8' Lodge & S., q. c. g., d. b. g.; good condition. Price ..... 475.
Lathe, 16"x 9' Lehmann, d. b. g., q. c. g., good condition. Price ..... 475.
Lathe, 26"x14' Hamilton, q. c. g., d. b. g.; good condition. Price ..... 1200.
Miller, No. 2 Cincinnati b. g. plain, 28x10x18; good condition. Price ..... 500.
Miller, No. 1B Fox, hand & pwr. fd., 18x6x14; new, never used. Price. 400.
Planer, 54"x54"x12' Pond, 4 heads; good condition. Price ..... 2500.
Polishing & buffing machines, five New Britain drop head, good condition. Price, each ..... 50.
Punch & stake riveter, No. 3 Hilles & Jones 60" throat, rapid action; cap. full depth throat ⅝" in 7/16"; 16,000 lbs; two stakes. Price ..... 1500.
Screw machine, Wood No. 4 tilted turret.
Shear, Niagara 8', 18 ga., foot power, square, splendid condition. Price 275.
Shear, Marshalltown No. 134 rotary splitting, cap. ⅝" plate; 4' throat. Arranged for motor drive. Like new. Price ..... 750.

## FOR SALE BY

**Nelson Machinery Co., • 123-131 N. Pearl St., Green Bay, Wis.**

LATHES.

Have following rebuilt and guaranteed lathes in stock that we are quoting special prices:

Used 9"x4' Rockford, loose change, with regular equipment.
Used 11"x5' Pratt & Whitney, loose change, sgl. back grd., reg. equipment.
Used 14"x6' Carroll-Jamieson, quick change, dbl. bk. grd., reg. equipment.
Used 16"x6' F. E. Reed, loose change, back geared, regular equipment.
Used 16"x8' Goddard Mche. Co., loose change, sgl. bk. grd., reg. equipment.
Used 20"x8', loose change, double back geared, regular equipment.
Used 22"x10' Advance, semi quick change, dbl. back grd., reg. equipment.
Used 36"x14' Springfield, single back geared, regular equipment.
Used 36"x14' Niles-Bement-Pond, dbl. bk. grd., hollow sp., reg. equipment.
We can supply any machinery that you may require. Send us your inquiries.

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## FOR SALE BY

**Reliance Machinery Sales Company**

**Brighton Road at Pennsylvania Ave., • • Pittsburgh, Pa.**

Bolt cutter, Acme 2"class"A", ½"to2".
Bolt cutter, 3" Landis, single head, lead screw.
Boring mills, 30" Bullard, 1 head.
Boring mill, 34" Colburn, 1 head.
Boring mill, 72" Betts vert., 2 hds.
Boring mill, 90" Niles vert., 2 hds.
Bulldozer, No. 1 Williams & White.
Bulldozer, No. 5 Williams & White.
Die slotter, 3½" stroke, Garvin.
Drill, 24" Hoefer, sliding head.
Drill, 28" Rockford, sliding head.
Drill, 36" Snyder, sliding head.
Drill, 2' 6" Carlton high speed radial.
Drill, 3' Mueller radial, g. b., s. p. d.
Drills. Amer. 4 & 5' radial, g. b., s. p. d.
Gear cutter, 24" Becker-B. auto.
Gear cutter, 36"x10" G. & E., s. p. d.
Gear cutter, 60"x12" G. & E., s. p. d.
Grinder, 6"x32" Norton plain cyl.
Grinder, 14" Pratt & Whitney vertical surface.
Lathe, 12"x 5' Hendey, tie bar.
Lathe, 14"x 6' Hendey, tie bar.
Lathe, 14"x8' Whitcomb-Blaisdell.
Lathe, 16"x8' Hendey, tie bar.
Lathe, 17"x8' Sidney, lwy. duty, q. c. g.
Lathe, 18"x10' Lodge & S., q. c. g., s. p.
Lathe, 18x10' Reed, q. c. g., d. b. g.
Lathe, 20"x10' Lodge & S., q. c. g.
Lathe, 24"x12' Rahn & L., q. c. g.
Lathe, 30"x12' Johnson, triple grd.
Lathe, 34"x12' LeBlond, trip. grd.
Lathe, 36"x18' American, grd. hd.
Miller, No. 1 Milwaukee universal.
Miller, No. 2-A B. & S. univ., s. p. d.
Miller, No. 2 Cincinnati b. p. vert.
Miller, No. 2 Cincinnati plain, v. a.
Miller, No. 3 Hendey plain.
Miller, No. 4 Cincinnati plain.
Miller, No. 29 Oesterlein universal, v. a., m. d.
Miller, model "B" Becker, vert., s. p. d.
Miller, model "C" Becker vertical.
Miller, No. 32 Kempsmith mfg.
Nut tapper, 2" National, 6-spindle.
Pipe machine, ½" to 2" Armstrong.
Pipe machine, Jarecki, cap. 1" to 4".
Pipe machine, Merrill, 1½" to 6".
Pipe machine, Merrill, 2½" to 12".
Planer, 24"x24"x 6' Gray, 1 hd.
Planer, 30"x30"x10' Woodward & P.
Planer, 36"x36"x 8' Cincinnati, 1 hd.
Planer, 36"x36"x10' Gray, 1 head.
Press, No. 3 Adriance, o. b. i., 2" str.
Press, No. 4 Toledo, o. b. i., 2½" str.
Press, No. 5 Toledo, o. b. i., 3" str.
Press, No. 10 Bliss, reducing, 4" str.
Press, No. 23 Stoll horning.
Press, No. 52 Bliss, s. s., 2" stroke.
Presses, Nos. 61 & 62 Bliss o. b., f. w.
Press, No. 73 Consolidated o. b., 2½" st.
Press, No. 74 Consolidated, geared.
Press, No. 87 Niagara screw.
Press, Ferracute DD2, o. b. i., cam.
Press, No. 168 Toledo toggle.
Press, No. 305 Bliss straight sided.
Punch, Cleve., 24" thrt. ⅝"x⅝", m. d.
Punch, Cleve., 15" thrt., 1½"x1", m. d.
Punch, Cleve., 72" thrt., 1½"x1", m. d.
Reduction gear, Foote, 50 to 1.
Saw, No. 8 Marvel metal band.
Saws, American metal sw., m. d., (2).
Screw mch., No. 1 W. & S., with tools.
Screw machine, No. 2 Foster, pl. hd.
Screw machine, No. 2 W. & S., pl. hd.
Screw machine, No. 4 Foster, g. f. head., power feed to turret.
Screw machine, No. 6 Foster, g. f. head, power feed.
Screw machine, ⅝"-1½" Cleveland, model "A", automatic.
Shaper, 16" Columbia b g. crank.
Shaper, 20" Cincinnati, b. g. crank.
Shaper, 20" Hendey b. g. crank.
Shaper, 21" American, b. g. crank.
Shear, squaring, 96" Stoll, 16 ga.
Shear, squaring, 96", power, 20 ga.

Our warehouse is full of bargains. What have you for sale?

## FOR SALE BY

**The Hess-Bright Manufacturing Company**

**Front St. & Erie Ave., - - Philadelphia, Pa.**

### SCREW MACHINES.

No. 2 5-G Garvins, equipped for boring and turning only, (4).

### TURRET LATHES.

13" Gisholts, (6).
21" Gisholts, (9).

### AUTOMATICS

No. 2 Cleveland, small (2).
3½" Clevelands, (4).
5½" Gridley.
4½" Clevelands, (3).

### GRINDERS.

No. 1 Landis internal, (3).
No. 1½ Landis internal, (5).
12x32 Landis plain.
No. 4 Landis oscillators, (2).
No. 2 Landis universal, (6).
No. 2-A Landis universal, (2).
No. 3 Landis universal, (3).

### RIVETING MACHINES.

No. 1 Townsends, (5).
No. 2 Townsend.

### MISCELLANEOUS.

Broach, No. 2 LaPointe.
Cutting-off machine, 6½ Auto. Machine Co.
Gas furnace, No. 5 American.
Grinder, wet, 14" Blount.

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## FOR SALE BY

**Wm. C. Johnson & Sons Machinery Co.,**

**1211-1223 N. 12th St., St. Louis, Mo.**

### MILLERS.

No. 2 Kempsmith.
No. 2 Brown & Sharpe plain.
No. 4 Cincinnati plain, single pulley.
No. 5-B Brown & Sharpe.
No. 33 Kempsmith.
No. 2 Rockford full universal.
No. 2 Knight vertical.
Nos. 0 and 3 Burke bench.
Whitney hand miller.

### DRILLING MACHINES.

3' arm Mueller, radial, s. b. drive.
3½' arm post drill.
34" sliding head.
24" Aurora, sliding head.
20" Barnes.

### GRINDERS.

No. 2 Cincinnati universal.
8" Heald rotary, with magnetic ck.
10"x36" Thompson universal.
No. 6 St. Louis.
30"x84" Diamond face grinder.
12"x42" Landis universal.
Yankee twist drill.

### PLANERS.

24"x24"x 6' Lodge & Davis.
32"x30"x 7' Whitcomb.
36"x36"x10' Flather.
60" open-side Detrick & H., 3 heads.

### SHAPERS.

Smith & Mills, all sizes.
18" Hendey, arranged for motor.
20" Kelly.
18" Flather, 4 speeds.
16" Cincinnati.

### LATHES.

9"x12" Sundstrand.
14"x 6" Monarch, q. c.
14"x 6' Sidney, q. c.
20"x 9' Cisco, q. c.
21"x 8' Sidney, q. c.
24"x12' Advance.
26"x13' Putnam, q. c., ar. for motor.
28"x 8' Greaves & Klusman, q. c.
30"x15' American, q. c.
33"x20' Draper, triple geared.
36"x18' Prentice Bros., t. a.

### MISCELLANEOUS.

Boring machine, horizontal, No. 2 Pawling & Harnischfeger.
Boring mill, No. 1 Busse horiz.
Broacher, No. 1 LaPointe.
Bulldozer, 75-ton Lourie hydraulic.
Engines, Corliss, 75 to 200 h. p.
Magnetic pulley, 24"x26".
Press, portable, hydraulic.
Punch, No. 5 Long & Allst., 5" thrt.
Punch, No. 7 Long & Allst., 4" thrt.
Riveter, 24" Shepard.
Screw machine, No. 6 Woods.
Sheet metal cutter, No. 1 Gray.
Shear, squaring, 10' Obl. 3/16 cap.
Tilted turret lathes, Wood, (3).
Turret, 28" Gisholt, latest.
Wheel press, 84", 200 ton.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Passman Bros., - - 705 Washington Blvd., Chicago, Ill.**

TOOL BITS.

High speed tool bits 5/16" and ⅜", at 75 cents per lb. Sold on money back guarantee.

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### FOR SALE BY

**The Strong, Carlisle & Hammond Co., Cleveland, O., Detroit, Mich.**

ENGINE LATHES.

12"x 5' Hendey, c. r., q. c. g., with pan bed.
12"x 6' Seneca Falls, c. r. and t. a., with relieving att.
14"x 6' LeBlond, l. c. g. and chuck.
14"x 6' Hamilton.
14"x 6' Monarch, c. r., standard.
14"x 6' Prentice Bros., s. b. g., l. c. g., with t. a., with 8" 4-jaw ind. ck.
14"x 8' Monarch, c.r., stand. pattern.
15"x 6' South Bend, c. r., complete.
16"x 6' South Bend, c. r., complete.
18"x 8' Prentice c. r., l. c. g., chuck.
18"x 8' Monarch, 3-step cone, d.b.g., q. c. g.
18"x 8' Schumacher-Boye & Emmes, c. r., 5 step cone, s.b g., q.c.g.
18"x10' Star, 4-s. c., s. g., with 16" 4-jaw ind. chuck.

TURRET LATHES AND SCREW MACHINES.

No. 2-A W. & S. g. h. tur. lathes.
No. 3-A W. & S. g. h. turret lathe.
1⅛" Acme screw mche., p. f. to tur.
28" Gisholt heavy duty turret lathe.
2"x24' Jones & L. g. h. flat turret.
No. 00 Brown & Sharpe auto., (8).
No. 0 Brown & Sharpe auto. (2).
No. 2 Brown & Sharpe auto. (2).
No. 2 Warner & S. p.h. screw mchs., a. c. & b. f., p. f. to turret. (3).
1" Biggs, p. h., a. c. & b. f.
No. 4 W. & S., p. h., a. c. & b. f.
No. 2 W. & S., p. h., a. c and b. f. (4).
No 2 W. & S., p. h., a. c. and b. f., with p. f. to turret (5).
No. 4 W. & S., g. f. h., a. c. and b. f. (4).
No. 4 W. & S., g. f. h., a. c. and b. f. with p. f. to turret (3).
18" Libby, factory rebuilt.
No. 2-G B. & S. automatics (3).
No 2 B & S. turret forming (2).

DRILLING MACHINES.

20" W F. & John Barnes, stationary head, b g. and p. f. (2).
24" Baker heavy duty.
24" Barnes "Camel Back," b.g., p.f.
4-spindle Leland-Gifford, h. s., b. b., with p. f. to each spindle.
2½' Mueller plain radial with t. a.
6' arm Western radial, with tap. att., arranged for motor drive.
20" Superior, stationary hd., p. l. f.
20" Hamilton, w. and l.
20" W. F. & John Barnes, stationary head, p. l. f., (2).
12" Mechanics, friction driven.
6-sp. 12" Leland-G., h. s., b. b. (6).
12" 3-sp. Leland-G., h. s., b. b. (4).
14" 3-sp. Leland-G., h. s., b. b. (3).
14" 4 sp. Leland-G., h. s., b. b (3).
14" 2-spdle. Avey, h.s., b.b., (2).
14" 3-spdl. Henry & W., h. s., b. b.
14" 4-spdl. Henry & W., h. s., b. b.

MILLING MACHINES.

No. 0 Bickett, hand, bench type (7).
Toledo hand milling machines (2).
No. 2½ K. & T. vertical, arranged for motor drive.
No. 2-B B & S. plain, constant s. dr.
No. 1½ Rockford plain, with div. hd.
No. 24 Ohio plain b. g. complete.
No 1-Y Brown & Sharpe plain.

GRINDERS.

No. 10 B. & S. plain, (2).
No. 6-A Bryant internal.
No. 2 B. & S. surface.
No. 3 Brown & Sharpe universal.
LaSalle combination pl. and surface.
No. 1 LeBlond cutter grinder.
Type "DE" Hisey-Wolf internal.
No. 11 B. & S. plain grinders, (5).
Plain emery wh'l stand with column.

SHAPERS AND PLANERS.

15" Flather crank shaper.
16" Hendey friction, (2).
16" Ohio plain crank.
18" Walcott plain crank.
24" Queen City heavy duty bk. grd.
22"x22"x 5' Putnam planers (2).

METAL CUTTING TOOLS AND SQUARING SHEARS.

Higley cold saw.
3" new Davis cutting-off machine.
30" Niagara foot power squar. shear.

GEAR CUTTERS AND HOBBERS.

26" & 36" No. 3 Brown & S. auto.
No. 13 Brown & Sharpe auto.
No. 12 Barber-Colman hobbers.
No. 12 B. & S., bevel, (2).

HAMMERS.

Quickwork body hammer.

## FOR SALE BY

**Botwinik Brothers, - 21 Sylvan Ave., New Haven, Conn.**

"Connecticut Machinery Merchants"

UNIVERSAL GRINDING MACHINES.

10-Brown & Sharpe No. 1 universal grinding machines, complete with all regular standard equipment, overhauled and in A-1 condition. Price $375 each f. o. b. New Haven, Conn. Act quick.

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## FOR SALE BY

**The Patterson Tool & Supply Co., - - - Dayton, Ohio**

Drill press, 4-sp. 15" Hoefer, ...$175.
Drill pr., type BW-1 Sipp, (2),. 150.
Lathe, 14"x8' Monarch, q. c.g .. 225.
Lathe, bench, 4x5 Elgin, ex. equip, 250.
Mill, plain, Brown & Sharpe,... 175.
Mill, U. S. hand,.....$ 75.
Millers, Standard gear, (4), each 50.
Radial, wall, No 50 Canedy-O., 100.
Shapers, new 20" Smith & M. (2) 600.
Watchman's clock, Hardinge,... 25.

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## FOR SALE BY

**Mid-West Machine Tool & Supply Co., - Davenport, Iowa**

With a good-as-new, money-back guarantee—Partial list.

Automatic, 1¾" Cleveland, model A.
Automatic, 2¾"-3¼" Cleve., model A.
Boring mill, 24" Bullard.
Boring mill, 36" Gisholt.
Boring mill, 36" Colburn hvy. duty.
Drill, No. 22 Natco.
Grinder, Oakley tool & cutter, new.
Grinder, 10"x36" Norton plain.
Hobbers, No. 12 Barber-Colman.
Miller, No. 3 Cincinnati plain.
Radial, 4' American sensitive.
Radial, 4' Western.

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## FOR SALE BY

**Badger-Packard Mchy. Co., 133-139 W. Water St., Milwaukee, Wis.**

Rebuilt Machinery.

Automatic, 1¾" Gridley.....$ 850.
Automatic, 4" Gridley.....750.
Automatic, 52 National Acme.. 300.
Automatic, 55 National Acme. 550.
Automatic, 1½x17" Hartford.. 250.
Ball bearings, 1 15/18" Chapman, 20" frame, (50), $10.50 ea.
Band saw, metal, 10x10 Napier 140.
Flat turret, 2¾x26" Greenlee...$ 350.
Flat turret, 3¼x40" Greenlee.... 500.
Hack saw, 6x6" Racine..... 75.
Hack saw, 13x16" Peerless..... 295
Pipe machine, 6" Oster..... 325.
Screw machine, 2" Cleveland S. spl., as is ..... 200.
Turret, 6-A Potter & Johnston 1,000.

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## FOR SALE BY

**McDonald Machinery Co., 1531-33 N. Broadway, St. Louis, Mo.**

Bow rounder, No 2 B & S. auto.
Drill, Detroit 5-sp. horiz.
Drill, Rockford horiz. boring & drill.
Drill, radial, 2—3' American, s. pul.
Furnace, Holcroft 92 k. w. annealing.
Lathes, Hamilton 27x14, Sidney 29x10, Bridgeford 27x9, Advance 18x8, q.c.
Lathe, Star 14x6, mtr. drive, collets.
Milling machines, Hendey No. 2G univ.; LeBlond No. 4 heavy plain; Ohio No. 2 pl.; 2 Knight vert mill & drill; Becker "SD" vert., rotary table. 17200 lbs.
Pipe machine, Oster 4", and dies.
Planers, Sellers 36"x36"x23', 2 heads; Pond 42"x42"x16', 2 heads.
Punch pr., Consolidated No. 67 grd., wt. 30,000; Ferracute No 2 str. bck.; Swaine No. 40 arch; Neevel bench.
Punches, Felber 1" in 1", and Slitt shear; Scully, 20" throat, 1" in 1".
Saw, Nutter Barnes 8" cold.
Screw mche., Gridley 2¼" auto. sgl.
Screw mche., 3-B. & S. No. 00 auto.
Shaper, 26" open side planing; 18" Smith & Mills; 15" Kelly; 16" Milwaukee, b. g; 7" Rhodes.
Shears, 60" thrt. rotary slitting. (2).
Thread miller, Lees-Bradner No. 4.
Torches, 50 vapor blast heat, new.
Welders, 20 k. w. spot. Toledo. (2).
Welders, butt, Federal, ⅜" rds.

## WANTED BY

**Standard Steel Works, - - North Kansas City, Mo.**

DOUBLE CRANK PRESS.

Wanted to buy one new or used double geared double crank press of capacity, stroke and die space equal to Bliss 62" No. 10 or larger. Send cut and specifications. Must be in first-class condition.

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## FOR SALE BY

**The W. M. Pattison Supply Co., - - Cleveland Ohio**
**Branches—Akron, Ohio; Detroit, Mich.**

LATHES.

11"x 4' Sundstrand, mfg. type, motor driven, with G. E. Co. a. c. motors. (4).
12"x 5' Hendey, cone type, tie bar, oil pan, c. r., (3).
14"x 6' Monarch, q. c. g., 3-step cone, d. b. g., c. r., taper.
14"x 6' Hendey, cone type, tie bar, compound rest. (3).
16"x 8' Hendey, cone type, tie bar, c. r. and c. s., (2).
16"x 8' Cincinnati, d. b. g., 3-step, quick change, c. r. and c. s.
18"x 9' Chard, semi-quick change, c. r. and c. s.
28"x12' Boye & Emmes, q. c. g., 3-step cone, d. b. g., c. r. and c. s.

MISCELLANEOUS.

Milling machine, No. 2 Cincinnati plain, sgl. pulley drive, automatic feeds.
Milling machines, Taylor & Fenn vertical high speed ball bearing, (5).
Planer, 24"x24"x6' Liberty, one head on c. r., and c. s.
Planer, 36"x38"x10' Ohio, one head on c. r., and c. s.
Press, No. 26 Toledo, cam, 8" stroke, geared, inclinable type.
Punch and shear, single end, No. 17-C New Doty, 25" throat, motor driven.
Screw machine, ¾" model "A" Cleveland Automatic.
Screw machine, 1¼" model "A" Cleveland Automatic.
Shaper, 16" Gould & Eberhardt, cone type, back geared.
Shaper, 24" Gould & Eberhardt, cone type, back geared.
Shaper, 24" Stockbridge b. g. crank, motor driven, including d. c. variable speed motor and control.

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## FOR SALE BY

**Syracuse Supply Company. 314 W. Fayette St., Syracuse, N. Y.**

Guaranteed New Machines in original crates at prices below list:

Crucible, FD-104 Hoskins.
Drills, 21" Canedy-Otto (2).
Drills, 20" Buffalo (4).
Grinder, Churchill internal.
Lathe, 14"x6' Hamilton.
Lathe, 16"x8' Hamilton.
Lathe, 10"x5' Monarch.
Lathe, 14"x6' Monarch.
Lathe, 14"x8' Monarch.
Lathe, 16"x6' Monarch.
Miller, 42" type "B" Briggs.
Pipe machine, No. 70 Forbes.
Screw mchs., No. 4 W. & S., g.f.h., (3).
Slotter, No. 3 Rhodes.
Straightener, No. 2½ Corey.
Tilted turret, No. 4 Wood.
Turret lathe, No. 4 W. & S. univ.

Exceptional values in Used Tools:

Automatic screw mch., No. 52 Acme.
Automatic screw mch., No. 515 Acme.
Drill press, 25" W. F. & John Barnes.
Drill press, 26" Barnes, sliding hd.
Drill press, 4-spindle Reed sensitive.
Drill press, 3-spindle Reed sensitive.
Drill press, 2-spindle Reed sensitive.
Grinder, No. 0 Wilmarth & Morman.
Lathes, 14" x 6' American (2).
Lathe, 14"x 6' Monarch.
Lathe, 16"x 6' Hendey, rebuilt.
Lathe, 16"x 8' American, geared head, rebuilt.
Lathe, 16"x 8' Monarch.
Lathe, 18"x10' American.
Lathe, 28"x12' Draper.
Miller, No. 5 Becker vertical.
Press, No. 69N Bliss.
Punch press, No. 18 Bliss.
Radial, 4' Cin'ti-Bickford, GB-BD.
Shaper, 16" Gould & Eberhardt.
Thread miller, Lees-Bradner.
Tilted turret, No. 6 Wood.
Turret lathes, No. 4 Foster (2).
Turret lathe, No. 2 Warner & S., hollow hex.
Turret lathe, 2½x26 Pratt & Whitney.
Turret lathe, No. 2½ s. g. Garvin.
Turret lathes, 3x36 Jones & L. (3).
Turret lathe, 2x24 Jones & Lamson.

## FOR SALE BY

**W. P. Little Co., - West 9th & Front Sts., Cleveland, Ohio**

### RADIAL AND MULTIPLE DRILL PRESSES.

4' arm W. E. Gang radial.
Rickert & Shafer radial tapper.
3' arm Aurora radial.
4-spindle Rockford, auto. feeds.

### LATHES.

16"x 6' Bradford, q. c. and t. a.
16"x10 Cincinnati, d. b. g. & q. c. g.
16"x 8' F. E. Reed, taper attach.
18"x 8' Porter, d. b. g.

### MILLING MACHINES.

18" Cincinnati, back geared.
U. S. hand miller.

### PUNCH PRESSES.

No. 3 Long & Allstater, dbl. end.
No. 149 Williams & White, (2).

### INTERNAL GRINDERS.

No. 6 Bryant internal.
No. 75 Heald internal.

### MISCELLANEOUS.

Broach, 3-A LaPointe Hudson.
Hammer, 50 lb. Bradley upright.
Hammer, 250 lb. Morgan steam.
Spline miller, 2" Pratt & Whitney.
Turret, No. 4 Warner & Swasey.
Turret, No. 6 Warner & Swasey

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## FOR SALE BY

**The Washburn Company,**

Converter, rotary, d. c. and a. c., 10 k. v. a., 220 volt ..... $ 75.
Drill, bench, with chuck & c. s. 10.
Drill, 2-spindle bench ..... 25.
Emery wheel stand, No.1 Besly 20.
Emery wheel stand, 2-spd. cone pulley, 4" belt, with c. s. ..... 25.
Friction clutch, 24" Diamondon, 3 15/16 bore ..... 65.
Generator, plating, Hanson Van W., 500 amp., 5-6 v., d. c. ..... 65.
Generator, Kester Electric, 5-10 v., 1,000 amp., d. c. ..... 175.
Hack saw, power ..... 20.
Hammers, 100 lb. poppet drop, (2), each ..... 100.
Lathe, speed ..... 20.
Lathe, speed, 12" Garvin ..... 25.
Lathe, trimming, 12" swing ..... 25.
Miller, Garvin No. 3 ..... 80.
Miller, No. 13 Kempsmith, with c. s. ..... 50.
Miller, No. 8 Kempsmith ..... 225.
Miller, B & S., Lincoln type ..... 100.
Miller, large pl., Lincoln type ..... 100.
Polishing mchs., Hanson Van W., with c. s., (3), each ..... 15.
Press, power, flywheel 22x3¾, stroke 1¼", bed 7"x13" ..... 65.

**6126 S. La Salle St., Chicago, Ill.**

Press, reducing, 4" stroke, with dial, Waterbury-F. Fdry. pattern, wt. about 2,000 lbs; nearly new ..... $175.
Presses, dbl. action, 3¾" str. outside slide, 5" str. inside slide, Waterbury-F. Fdry. pattern, wt. about 3,000 lbs., nearly new, with dials, (2), each ..... 250.
Press, foot ..... 10.
Shaper, 16" Gould & Eberhardt 175.
Swaging machine, cold, No. 2 Goodyear ..... 100.
Swaging mche., large, Dayton type ..... 125.
Swaging mchs., medium, Dayton type, (2), each ..... 80.
Swaging mchs., small, Dayton type, (2), each ..... 60.
Turret lathe, small ..... 40.
Turret lathes, Garvin, b. g., 12" swing, c. s. & draw-in chuck, (3), each ..... 50.
Turret lathe, Pearson, 12" swing, 3" belt, 4-st. cone, pump and c. s and draw-in collet ..... 50.
Turret lathe, b. g., p. f., 14" sw. 100.
Turret lathe, No.4 Warner & S. 150.

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**Second-Hand Wood-Working Machinery**

For a large list of used wood-working machinery, consult the **Wood-Working Machinery List**, a publication similar to this but devoted to the advertising of saw-mill and wood-working machines. A copy may be had on application to the publisher, **A. H. Hitchcock, 1220-1235 Caxton Building, Chicago, Ill.**

# Opportunity Knocks Again!

## *Real Values in Machine Tools—*

### LATHES

1—64"x21' New H., with mtr..$2350.
1—48"x21' Pond (Plainf'd)mtr. 2680.
1—44"x45' S.W. Putnam(Fitchburg) with motor..... 3030.
3—32"x12' Pittsburgh, each .... 900.
1—30"x28' Pond (Plainf'd) mtr. 2840.
1—24"x16' Bradford, with mtr. S. P. taper attachment..... 2070.
1—24"x16' Whitcomb-Blaisdell 1100.
2—20"x 8' Boye & E., each .... 775.
1—20"x10' Schumacher B. & E. 725.

### BORING MILLS—VERTICAL

1—10-16' Niles(Hamilton)mtr. $9350.
1—96" Niles mill..... 2250.
1—8' Niles mill ..... 1800.
3—61" Bullard Maxi mills, ea.. 5000.
1—54" Bullard Maxi mill..... 5500.
2—52" King mills, each..... 4500.
2—42" Bullard mills, each ..... 1750.
1—42" Bullard New Era mill.. 4100.
1—42" King mill..... 3500.
1—36" Bullard New Era mill... 3600.
1—36" Bullard rapid produ'n. 2600.

### BORING MILLS—HORIZON'L

1—No. 4 Detrick & Harvey horizontal, 7" bar, m. d.
1—No. 40-A Landis horiz., 4" bar.
2—No. 2 Rockford horiz., ea .$ 450.
1—Lucas duplex 18"x48", 3½" spdl.

### PLANERS

1—72"x72"x24' Detrick & H., m. d.
1—48"x48"x14' Cincinnati, m. d.
1—48"x48"x12' Putnam, 3 hds., with motor.....$2050.
1—42"x36"x10' Cin'ti, 2 hds.... 900.

### PRESSES

1—S-204 Ferracute.....$6000.
1—150 ton high speed steam.... 3800.
1—No. 108½ Clevel'd punch pr. 5500.
1—No. 75½ Bliss dbl. grd..... 1800.
1—No. 3½-A Bliss draw'g press 2000.
1—No. 28 Toledo cam press.... 2450.
1—73½ Toledo.

### SHEARS

1—636 Niagara squaring, 36" 10 ga.....$ 625.

### GRINDERS

1—21x96 Norton plain, .....$4000.
2—10x50 Norton plain, each.... 900.
2—No. 14 B. & S. plain, each... 780.
1—12x42 Landis plain.
2—Landis crankshaft.
1—No. 14 Besly disc ..... 375.
1—No. 6 Gardner disc..... 375.
1—No. 12 Besly disc ..... 125.

### MULTIPLE DRILL PRESSES

1—12 spindle Harrington .....$ 550.
1—6 spdl. Foote-Burt No. 5.... 1800.
1—Moline hole hog ..... 450.

### LARGE TOOLS

1—10-16' Niles vert. bor'g mill, m.d.
1—96" Niles vertical boring mill.
1—4000 lb. Massillon steam hammer.
1—64"x21' New Haven lathe, m. d.

### RADIAL DRILLS

1—16' Wall radial.....$1100.
1—Western, 6' arm, with mtr... 1870.
1—Cin'ti Bickf'd, 6' arm, mtr... 2600.
1—6' Niles..... 525.
1—4' Hammond radial..... 325.
1—2½' Mueller radial..... 250.

### STEAM HAMMERS

1—2500 lb. Massillon.....$2650.
1—3500 lb. Massillon..... 2100.
1—1100 lb. Chambersburg ..... 1200.
1—150 ton United high spd. stm. hyd.

### MILLING MACHINES

1—LeBlond No. 3-H univ .....$1150.
1—Becker No. 5-B vertical..... 425.
1—Model C Becker vertical... 850.
1—Model A B Becker vert..... 340.
2—No. 13B Brown & S., each... 850.
3—Gooley & E., Briggs type, ea. 275.
1—No. 2 Cin'ti pl., sgl. pulley. 650.
5—No. 12 Brown & S., each... 300.
7—20x7' x17 Osterlein, each.... 260.
2—No. 32 Kempsmith, each.... 200.

### GLEASONS

1—Spiral gear rough.
1—Pinion rougher.
3—Gear generators.
1—Bevel gear testing machine.
1—Bevel gear burnishing machine.
1—15" Bevel gear testing machine.
1—New Gleason gr. hardening mch.

### SCREW MACHINES

1—4½" Gridley automatic .....$ 900.
5—3⅜" Cleveland auto., each.... 2500.
1—3½" Gridley automatic..... 900.
2—Model B 2" Cleve. auto., ea. 1275.
3—Model B 2" Cleveland automatics, new, each..... 1450.
2—Model B 1½" Cleve. aut., ea. 650.
2—No. 53 Nat'l Acme auto., ea. 1100.
1—4 spindle Gridley 1½"..... 650.

### TURRET LATHES

1—24" Gisholt turret lathe .....$1100.
1—3x36" J. & L. turret lathe.... 550.
1—No. 6 Foster screw mch..... 475.
2—No. 4 Foster screw mch., ea. 185.
5—No. 4 Dreses tur. lathes, ea. 300.

## The EMPIRE MACHINERY EXCHANGE CO., Inc.

***Offices and Warehouses:*** **2261 E. 14th St., Cleveland, Ohio**

# FOR SALE BY
# Simmons Machine Tool Corp.

**NEW YORK** — **182 Lafayette St.**
**ALBANY** — **1212 Troy Road**
**BUFFALO** — **88 Exchange St.**

### Milling Machines
No. 5 Cincinnati High Power Plain.
No. 3 Cincinnati High Power Univ.
No. 3-S Cincinnati Universal.
No. 2 Cincinnati High Power Univ.
No. 4 Cincinnati High Power Vert.
No. 3 Cincinnati High Power Vert.
No. 2 Cleveland All Geared Plain.
No. 1 Cleveland All Geared Plain.
No. 20 Garvin Vertical New.
No. 22 Garvin Vertical New.
No. 15 Garvin Vertical 3 Spindle.
No. 3 Davis Drum Type Cont.
24"x24"x20' Ingersol 5 Heads.

### Gear Cutters
No. 3 Brown & Sharpe Automatic.
No. 2 Brown & Sharpe Automatic.
No. 2 Newark Type A. B.
24" Gleason Bevel Planer.
36-BM Gould Eberhardt Rough.
No. 5 Lees Bradner Hobber.
24" Schuchardt Schutte.

### Keyseaters
No. 6-A Mitts Merrill New.
No. 3 Mitts Merrill.
No. 3½ Baker Motor Drive.
No. 1 Giant.

### Presses
No. 2-B Standard Dbl. Act.
No. 55 DAG Ferracute Drawing.
No. 52 SRG Ferracute Stamping.
21 Ton R. D. Wood Hydraulic.
No. 2 B. A. Gier Straightening.
No. 7 Myers Bench Arbor.
No. 4 Greenerd Arbor.

### Threaders
8" Bignall Keeler Pipe.
6" Cox Motor Drive Pipe.
3" Saunders Belt Drive Pipe.
3" Landis Bolt, Lead Screw.
1½ Acme Double Head, A.
No. 732 Greenfield 1" Bolt.
No. 2 Garvin Tapper B G.
No. 2X Garvin Tappers.
No. 1 Garvin Tappers.
1½" Acme Six Spindle Tapper.

### Saws and Cut-Off
No. 2B Gorton Cut-off.
No. 3 Burr Cold Saw.
14" Metal Band Saw.
6"x6" Marvel Hack Saw.
No. 2 Myers Hack Saw.

### Automatics
No. 5A Potter Johnston.
No. 6A Potter Johnston.
¾" Gridley 4 Spindle.
1¼" Gridley 4 Spindle.
2¼" Gridley 1 Spindle.
3¼" Gridley 1 Spindle.
2" Cleveland Model A.
2" Cleveland Model C.

### Turret Lathes
24" Vertical, Side Head.
34" Vertical, Bertram.
36" Vertical, Side Head.
No. 3-A Warner Swasey.
No. 6 Warner Swasey.
No. 4 Warner Swasey.
No. 3 Warner Swasey.
No. 1 Warner Swasey.
2¼"x11 Acme, G. F. H.
2¼"x10 Millholland, G. F. H.
1½"x18 Pratt & Whitney.
No. 2½ Garvin, G. F. H.
No. 5½ Bardons Oliver.

### Vertical Boring Mills
42" Bullard 2 Heads.
48" Colburn 2 Heads.
51" Bullard 2 Heads.
54" Colburn 2 Heads.
60" Niles 2 Heads.
60" Cincinnati, Rapid Travel.
62" Colburn Rapid Travel.
60" Niles 5 Heads.
72" Niles 2 Heads.
84" Pond Extra Heavy.

### Radial Drills
120" Baush Extra Heavy.
87" Warren D. C. Motor.
72" American Gear Box.
72" Bickford Gear Box.
60" Bickford Gear Box.
48" Bickford Gear Box.
36" American Sensitive.
30" Mueller Gear Box.
24" Mueller Gear Box.

### Grinding Machines
20"x144" Landis Plain.
26"x144" Landis Plain.
14"x96" Norton Plain.
14"x50" Norton Plain.
20"x84" Landis Universal.
20"x72" Brown & Sharpe Universal.
12"x36" Modern Universal.
No. 14 B. & S. Wide Wheel.
10"x72" Norton Plain.

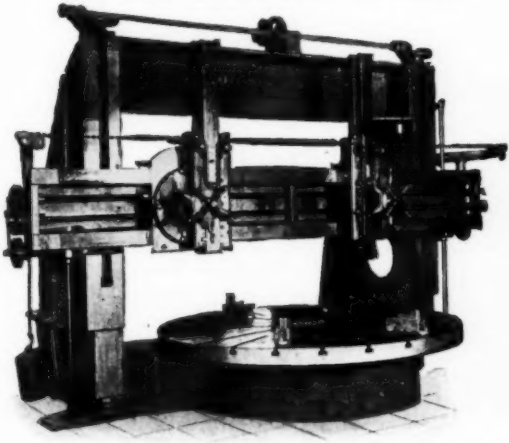
# EASTERN & EQUIPMENT MACHINERY COMPANY.

99 PER CENT SATISFIED CUSTOMERS

COMMERCIAL TRUST BLDG. PHILADELPHIA, PA.

## We Must Move This Mill in the Next Few Weeks

## *WHAT IS YOUR BEST OFFER?*



**Cone Drive, 10' Diam. Table, Geared Feeds, 84" Under Rail; 4—18" Face Plate Jaws**

## *Other Exceptional Bargains*

| | | |
|---|---|---|
| 36"x36' BRIDGEFORD Lathe, geared head, 2 cgs. | 92% | New |
| 36"x36"x12' BICKETT Planer, 1 hd., belted motor dr. | 96% | " |
| 12"x96" LANDIS Plain Grinder, belt drive | 95% | " |
| No. 25—24" FOOTE-BURT Upright Drill, s. p., 3" cap. | 99% | " |
| No. 4 QUINT'S 6-spindle Turret Drill, 2" cap. | 100% | " |
| 250-ton SOUTHWARK Tire Forcing Press | 100% | " |
| 34" KING Vertical Boring Mill, 5-hole turret | 90% | " |
| No. 4 CINCINNATI Vert. Miller, rapid pwr. traverse | 98% | " |

A number of 1¼" and 2" cap. Duntley Electric Portable Drills for 220 volt, 3 ph., 60 cyc. Guaranteed—30 days' trial at $40.00 each.

# COLD HEADERS

# Rivet and Bolt Machinery

1—Waterbury Farrell Single Stroke No. 11 Header.
1—Waterbury Farrell Single Stroke No. 4 Header.
2—Waterbury Farrell Single Stroke No. 3 Headers.
1—Waterbury Farrell Planisher—Dial Type.
3—Economy Automatic Shavers.
4—Economy Automatic Pointers.
2—Detroit 5-spindle, semi-automatic drills.
1—Bilton Automatic Gear Milling Mch. No. 2½.

**Headers are NEW, balance of equipment fine condition**

**Can be inspected and demonstrated**

**For Prices and Terms Address**

## Keystone Screw Company

**133 So. 4th St., PHILADELPHIA, PA.**

# Special Offerings—

| | |
|---|---|
| American 4' Radial Drill, motor driven | $1150. |
| Morris 2½' Radial Drill, s. p. d. | 450. |
| Burke No. 22 Bench Drills, brand new | 25. |
| Henry & Wright single spindle b. b. Drill | 125. |
| Allen 2-spindle ball bearing Drill | 250. |
| Demco 3-spindle ball bearing Drill | 400. |
| Allen 4-spindle ball bearing Drill | 475. |
| Hollingworth 18" Shaper, brand new | 750. |
| Gould & Eberhardt 14" Shaper | 450. |
| Milwaukee 16"x6' Lathe | 250. |
| Walcott 16"x8' Lathe, q. c. g. | 525. |
| Davis 14"x5' Lathe, q. c. g. | 450. |
| Cincinnati No. 3 Universal Miller, dividing head | 1250. |
| Gray 24"x24"x8' Planer, single head | 750. |

## Louis E. Emerman & Company

**1761 Elston Ave., Chicago, Ill.**

# Bessemer Wire

## Bright—New—In Coils

**From Reputable Makers**

**As Follows:**

| WEIGHT | DIAMETER |
|---|---|
| 2,981 lbs. | .177 — .179 |
| 33,829 " | .241 — .245 |
| 131 " | .266 — .270 |
| 3,803 " | .300 — .304 |
| 3,109 " | .305 — .308 |
| 22,337 " | .362 — .366 |
| 133 " | .386 |
| 14,759 " | .422 — .426 |
| 4,932 " | .488 — .492 |

**Suitable for cold upsetting.**

**WILL SELL AT BARGAIN**

**Apply to**

**Keystone Screw Company**

**133 S. 4th St., Philadelphia, Pa.**

# Machine Screws

**Approx. 80,000 lbs. iron screws and 25,000 lbs. brass screws, in bulk.**

**STANDARD and SPECIAL**

**Will sacrifice entire lot for cash**

***List furnished. Apply to***

**Keystone Screw Company**

**133 S. 4th St., Philadelphia, Pa.**

# "Factory" Rebuilt Tools

## Every Machine Rebuilt in a Machine Tool Factory

**The following tools are exceptional bargains. The majority of these machines have been used exclusively in our own plant, where they have received the very best of care and attention, and all tools in this list have been completely overhauled and rebuilt right here in our own shop, consequently they cannot be classed with the average second-hand machine. They are factory rebuilt tools of the very highest quality, and many real bargains are included in this list.**

### LATHES

1—16"x 8' American, quick change gear, single back geared head.
1—18"x 8' American High Duty, quick change gear, with patented grd. head.
1—18"x10' American High Duty, quick change gear, with patented grd. head.
1—18"x10' American quick change gear lathe, single back geared head.
1—18"x14' American turning lathe, without screw cutting mechanism.
1—20"x10' American High Duty, quick change gear, with patented grd. head.
1—20"x12' American, quick change gear, with single back geared head.
1—24"x12' Greaves-Klusman Heavy Pattern, qck. chg. gr., dbl. bk. grd. hd.
1—30"x10' American High Duty qck. chg. gr. with double back geared head.

### RADIAL DRILLS

1—3' American Ball Bearing Sen. Radial, with elev. table and tapping att.
1—3' Reed-Prentice Plain Radial, with tapping att. and gear box drive.
1—3' Mueller Plain Radial, with tapping attachment and gear box drive.
1—4' Fosdick plain radial drill with tapping attachment, cone pulley drive.
1—5' American Plain Radial, with tapping attachment and gear box drive.
1—5' Fosdick Plain Radial, with tapping attachment and cone pulley drive.
1—5' Bickford Plain Radial, with tapping attachment and gear box drive.
1—6' Bickford Plain Radial, with tapping attachment and gear box drive.
1—8' Fosdick Plain Radial, with tapping attachment and gear box drive.
1—5½' Pond plain radial drill with cone pulley drive.
1—8 spindle Niles-Bement-Pond Boiler Plate Drill.

### MILLING MACHINES

1—No. 2½ LeBlond Plain Milling Machine, 3-step cone, friction back gears.
2—No. 3 LeBlond Plain, with 3-step cone, friction back gears.
1—No. 3 Cincinnati Vertical Milling Machine with single pulley drive.

### PLANERS

1—36"x36"x14' American Pl. with 2 hds. on cross rail and 2 sp. countershaft.
1—42"x36"x36' American, with 2 hds. on cross rail, 2 side hds., 2-speed c. s.
1—48"x36"x18' American, with 2 hds. on cross rail, 2 side heads, 2-speed c. s.
1—48"x48"x28' American Heavy Pattern Planer with two heads on cross rail, two side heads, and two speed countershaft.
1—72"x60"x31' Pond Planer with two heads on cross rail and countershaft.

### SHAPER

1—16" American Back Geared Crank with table support, cone pulley drive.

### FLAT TURRET LATHES

1—No. 2 (2"x17") Warner & Swasey Flat Tur. Lathe, 3-step cone, friction hd.
1—2"x24" Jones & Lamson Flat Turret Lathe, with 3-step cone, friction hd.

### GEAR CUTTERS

2—No. 3 (26"x8") Brown & Sharpe Automatic Gear Cutters.

***In addition to the above we have a number of miscellaneous tools that are exceptional "buys"***

**Many of the above tools have been used but very little, and are practically the equivalent of new machines. We repeat, there are many unusual and exceptional bargains in this list that somebody is going to get the benefit of. Write us immediately for descriptions, illustrations and prices, so you will be one of those to get the benefit of these bargains before they are gone.**

# The American Tool Works Co.

**Cincinnati, U. S. A.**

**Builders of LATHES—SHAPERS—RADIAL DRILLS**

# A Quick Orderly Liquidation Sale

## Of Machine Tools and Plant Equipment of the

# RUSSEL MOTOR AXLE CO. at NO. DETROIT, MICH.

### GEAR MACHINES

No. 6 Felloe shapers.
6", 11", 18" Gleason generators.
G. & E. gear roughers.

### GRIDLEYS

2½" to 4½" single spindle automatic screw machines.

### MILLING MACHINES

No. 0 LeBlond plain.
18" Cincinnati duplex.
No. 3 Hendey Norton plain.
No. 5 Hendey Lincoln type.
No. 2 Cleveland plain.
Model "A" Gooley & Edlund.

### ENGINE LATHES

16"x 6' Hamilton.
14"x 5' F. E. Reed.
20"x10' American.
24"x12' Reed.
14"x 6' Pratt & Whitney.

### TURRET LATHES

7-A Model 2 Potter & Johnston auto. turret lathe.
Nos. 3, 4 & 6 Warner & Swasey.
3"x36" Jones & Lamson.
24" Gisholt, 6" hole, taper attach.
Fitchburg Low-Sw.3½x60 3½x80-8x80.
1½"x8" & 3"x36" Pratt & Whitney.
2"x26" Pratt & Whitney.
Fay Auto. 12" Plain and Taper.

### DRILL PRESSES

22", 25" & 26" Barnes single spdl.
25" J. E. Snyder Co.
Nos. 413 & 416 Baker Brothers.
No. 23 Foote-Burt 2-spdl. gang.
22½" Barnes 3-spindle gang.
4-spindle Foote-Burt gang. 3" spdl.
4-spindle Foote-Burt gang, 3½" spdl.
6-spindle multiple Baush.
16-spindle multiple Baush, b. d.
24-spindle multiple Baush.

### GRINDERS

10A Bryant internal.
No. 615 Fitchburg cylindrical.
No. 2 Gould & Eberhardt cutter.
No. 2-A Landis universal.

### MISCELLANEOUS

Nos. 3 & 3A La Pointe broach. mch.
No. 2X Garvin auto. tapping mch.
4 Gear testing machines.

### MOTORS

3 Phase, 60 Cycle, 220 Volts, A. C.

75 h. p. General Electic, 900 r. p. m.
40 h. p. Western Electric, 900 r. p. m.
30 h. p. Wagner 700 r. p. m.
30 h. p. Fairbanks-Morse, 900 r. p. m.
50 h. p. Wagner, 900 r. p. m.
35 h. p. Westinghouse, 900 r. p. m.
30 h. p. Wagner, 900 r. p. m.
30 h. p. Fairbanks-Morse, 1200 r.p.m.

42" Blue Print Machine.
Blue Print Dryer.
Wotten battery charging motor generator, type B. E 21-6.

## Shafting, Belting, Pulleys, Hangers and Small Shop Tools

*—ADDRESS—*

# RUSSEL MOTOR AXLE CO.,

## North Detroit, Mich.

# LARGEST STOCK IN THE EAST

## New and Used High Grade Modern MACHINE TOOLS

***Guaranteed* At Prices to Net You a Worth While Saving**

**BORING MILLS**

4—Bullard 24" New Era type, vert.
1—Bullard 61" maxi-mill.
2—Niles-Bement-Pond 52", vert.
1—Landis No. 35 horiz., floor type.
1—Gisholt 72" vertical, 2 heads.

**DRILLS—Upright and Radial**

12—New 24" Sibley upright.
1—Minster D-3, heavy duty.
1—3½' Mueller Radial, S. P. D.
1—Foote-Burt 4½, 4-spindle, rail.
2—New Turner No. 3, vert. turret.
1—N.-B.-P. 9½" Ridgeway, motor drive, plain radial.
1—Western 6', plain radial.
1—Baush 6'.

**DRILLS—Multiple Spdl., Rect. Head**

1—Natco No. 14, q. c. g.
1—Natco No. 30, 12 spindle.
2—New Baush No. 3, 21 spindle.
1—New Baush No. 4, 86 spindle.
1—Fox, 6 spindle.

**PLANERS**

7—Putnam 26x26x8', 2 heads.
1—Woodward & P. 36x36x12', 4 hds.
1—Putnam 48"x48"x12', 2 hds., m. d.
2—Clevel'd 36x36x8 opens'e, NEW.
2—Gray 38"x38"x20', 3 heads, motor drive.

**LATHES**

**New Star Lathes, all sizes with all attachments.**

12—New South Bend 16x8 and 18x8 gap; 21x14.
10—New South Bend 15x5.
2—Hendey 20x7, geared head.
2—Hendey 14x6, with taper.
2—LeBlond 26x10 crankshaft.
1—Walcott 26x14, 6", q. c. g.
1—Johnson 30x12, motor dr.
1—Bridgeford 36"x42' (raised to swing 60").

**GRINDERS**

1—Brown & Sharpe No. 14 plain.
16—Cincinnati No. 2, 12x36.
4—Norton 6x32 & 2—Norton 10x36.
1—Fitchburg 12x54.
1—Norton 16x36.
4—Heald Nos. 60, 65 & 70.
2—Heald rot. sur. Nos. 210, 255.
1—Blanchard No. 16, motor dr.

**SHAPERS and SLOTTERS**

3—New 16" Davis, s. p. d.
1—American, 28".
1—Newton 10" slotter.
1—Pratt & Whitney 10" slotter.

**MILLERS—Plain, Mig., Univ. & Vert.**

1—Brown & Sharpe No. 2 plain.
1—New Rockford No. 2½ universal.
1—Cincinnati No. 2 univ., s. p. d.
2—Briggs type B.
2—Taylor & Fenn vertical.
1—Becker No. 4B and No.5C vert.
1—Becker "C," vertical.
1—Becker No. 2H, vertical.
1—Newton No. 1 duplex.
1—New Garvin No. 3 duplex.
1—Pratt & Whitney 6x80 thread.

**GEAR CUTTERS**

2—Barber-Colman No. 3.
4—Hercules 8".
2—Brown & Sharpe 3x26.
1—Brown & Sharpe No. 13.
1—Gould & Eberhardt 60", spur.
1—Fellows Nos. 61, 6 & 612.
1—Gleason 6", 11" & 18", bevel.

**TURRET & SCREW MCHS.**

1—Foster No. 1-B turret.
1—Warner & Swasey No. 3-A.
3—Foster No. 2-B turret.
1—Warner & Swasey No. 4, p. f.
1—Warner & Swasey No. 2, p. f.
10—Warner & S. No. 1, wire fd. tur.
1—New Foster No. 10 turret.
4—Greenlee, 2½x26" turret.
4—J. & L. 2x24.
1—J. & L. 2-spindle turret.
1—J. & L. 3x36", flat.
1—Acme 1½" turret.
2—P. & W. 1x14 screw.

**AUTOMATIC SCREW MCHS.**

8—New Britain No. 24.
2—Cleveland 2½" Model A.
15—Cleveland ⅛" to ⅜" capacity.
1—Cleveland ⅜" to ½" capacity.
1—Cleveland 7/8".
7—Gridley 4-spindle, cap. 1⅛".
2—Nos. 34 & 22 New Britain chuck.
1—New Britain 1x5 bar machine.

**PRESSES**

2—Toledo No. 53, flywheel.
4—Toledo No. 55 & No. 55½, grd.

**MISCELLANEOUS**

1—Acme 2" Bolt Cutter.
1—Acme bolt cutter, 3" cap., motor.
1—National bolt cutter, 2-spdl., 1".
1—Landis 1½" bolt cutter, dbl. hd.
1—Landis 1½"3-sp. mtr.dr., bolt cut.
1—Garvin 36" cam cutter.
1—Erie 1100 lb. hammer.
1—Quickwork No. 4-B rot. shear.
1—New Quickwork No. 6 rot. shear.
1—Bliss No. 109 Slitter.

**PARTIAL LIST—**

***Send for Our Complete Illustrated Stock List***

**MOREY AND CO. INC. 408 Broome St., NEW YORK, N. Y.**

# Used Machinery Bargains

## MILLING MACHINES.

No. 0 Rockford, power feed.
No. 25 Becker, plain (3).
NO. 2-B Brown & Sharpe, plain.
No. 2 B hvy. Brown & Sharpe, pl.
No. 3 Cincinnati, plain (3).
No. 3 Kempsmith, plain.
No. 3 H LeBlond, plain, vert. att.
No. 3 Cincinnati high power vert.
No. 5 B Becker, vertical.
No. 6 Becker vertical.
Nos. 2 & 3 Pratt & W. die sinkers.
No. 6 Whitney hand (3).

## DRILLS.

No. 1½ Avey b. b., 1, 2, 4 spindle.
28" Hamilton and Aurora drills.
36" Aurora drills. (2).
36" Cincinnati, tapping attach.
5' Reed-Prentice plain radial.
36" American sensitive radial.
No. 2 Foote-Burt 4-spindle gang.

## LATHES.

14"x 8' Fay & Scott, taper attach.
16"x 6' Reed-Prentice. sgl. pul. dr.
18"x 7' Chard, d. b. g.
18"x 9' Bell, d. b. g.
20"x 8' Reed, with 220 v., d. c. mtr.
20"x 8' Hamilton, d. b. g.
20"x 8' Lodge & Shipley, grd. hd., q. c.
20"x10' American, geared head, q. c.
22"x10' Davis, d. b. g., q. c.
34"x10' Putnam, heavy type.
38"x14' Fifield, heavy pattern.

## SHAPERS AND PLANERS.

16" Stockbridge shaper.
24" Kelly back geared shaper.
28"x6' Pond planer.
30"x8' Ohio planer, heavy pattern.
36"x36"x15' Betts planer, 2 hds.

## GRINDERS.

6"x32" Norton grinder.
14"x72" Norton grinder.
16"x48" Landis crank pin, self contained.
12"x32" Landis universal.
16"x96" Landis plain.
No. 2 Oesterlein tool & cutter.
No. 2 Woods tool & cutter.
No. 1 Cincinnati tool grinders (3).
P. & W. vertical surface.

## SCREW MACHINES AND TURRET LATHES.

No. 00 B. & S. auto. screw machine, slotting attach., serial 6202.
⅝-⅞ Cleveland model A, ser. No. 27360.
2" Cleveland model A, ser. No. 26302.
⅝" Cleveland model A. (2).
No. 1 Garvin hand screw machine.
No. 3 Superior hand screw mche.
No. 4 Milholland hand screw mche.
16" Dreses Fox lathe.
18" Springfield and Am. Fox lathes.
No. 3 Warner & Swasey Fox lathe.
3x36 Jones & Lamson.
21" Gisholt turret lathe.
20x8 Fay & Scott univ. tur. lathe.
No. 3 Pratt & Whitney turret lathe, 2" hole in spindle.

## PRESSES.

No. 75½ Bliss, tie rod frame, geared, 6" stroke.
No. 4 Walsh open back inclinable.
No. 3 Stiles solid back.
No. 95 Consolidated, solid back.
No. 24E Bliss double crank geared press, area bed 14"x72".
No. 31 Toledo, solid back.
No. 8½ Zeh & H. screw press, 75 ton, used 24 hours.

## BORING MILLS.

30" Bullard, single turret head.
36" Niles two heads.
42" Bullard, motor drive, 2 heads.
2½" Binsse horiz. boring machine.

## TURRET LATHES.

24" and 36" Bullard vertical turret lathes, excellent condition.

## —SPECIAL BARGAINS—

36"x18' Fifield Lathe and Taper ..... $1000.
42"x36"x8' Cincinnati Planer, 1 head ..... 800.
36"x30"x8' Cincinnati Planer, 2 heads, A. C. Motor ..... 800.
5' Bickford Full Universal Radial, A. C. Motor ..... 800.

# A. D. White Machinery Co.

108-114 N. Jefferson St., CHICAGO, ILL.

# USED

## BORING MILLS

24" Bullard vertical turret lathe, New Era.
30" Bullard, 3-jaw chk., mtr. dr. (2).
34" Rogers, grd. feed, motor drive.
42" Baush, 2 swivel hds., pl. tbl., m.d.
42" Bullard rap. prod., 2 swiv. hds.
W. F. & J. Barnes horiz. drilling & boring.

## DRILLS

No. 3 Avey, power feed.
20" Prentice, lever feed.
20" W. F. & J. Barnes, wheel and lever, power feed (3).
21" Cincinnati, sliding head., b. g., p. f., tapping.
23" Rockford sliding hd., back grd., power feed, (3).
24" Kern, b. g., pwr. fd., tapping.
Colburn No. D-5 heavy duty.
Natco No. 14 Multi-Driller, bored for 22, equip. with ten 1½" spdls.

## RADIAL DRILLS

3' American, pl., gr. box, swg. table.
3' Prentice plain, box table.

## GANG DRILLS

4-spdl. 20" Barnes, w & l., pwr. fd.
Moline No. 6-D, 24" rl., 8 BV-14 hds.
Moline No. 7, 24" rail, 4 No. 28 hds.
Moline No. 11-D, 5' rl., 6 BV-14 hds.
Moline No. 16-D, 24" rl., 8 BV-20 hds.
Moline No. 17-D, 24" rl., 8 BV-14 hds.
Moline No. 7-D Cylinder Borer, 20" rail, 4 CWL heads.

## GEAR CUTTERS

No. 12 Barber-Colman hobber.
No. 5 B. & S. spur gear cut., 36" cap.
50"x12" Gould & Eberhardt, spur, with rack cutting attachment.
No. 6 Fellows gear shaper.

## GRINDERS

No. 1 Cincinnati pl. cutter grinder.
No. 1½ Cincinnati univ. cutter gdr.
10"x72" Norton plain., cylindrical.
12"x48" Cincinnati pl. cylindrical.
12"x48" Cincinnati univ. cylindrical.
16"x48" Cincinnati pl. cylindrical.
No. 6 Bryant internal.
No. 20 Heald rotary surface.
Pratt & Whitney vertical surface.

## GRINDERS—Continued

No. 4 Gardner disc (3).
84"x24" Diamond face, motor drive.
Type A, Production polishers, (2).

## LATHES

9"x18" Porter-Cable.
14"x 6' Rockford, c. r., quick chg.
16"x6' L. & S., 3-step, c. r., quick change, practically new.
16"x8' Bradford, 5-step, c.r., taper.
16"x8' Von Wyck, 5-step, c. r.
18"x8' S. & B., 3-step, comp. rest.
18"x12' Lehmann, qk.ch., 3-step, c.r.
18"x14' Rockford, c. r., qk. chg.
20"x8' L. & S., 5-step, quick ch., c.r.
22"x8' Bradford, qck. chg., c. r.
24"x12' Reed, 4-step, compound rest.
28"x14' LeBlond, 3-step, comp. rest.

## MILLING MACHINES

No. 1 Cincinnati plain, cone.
No. 1½ Cincinnati plain, cone.
No. 2 Cincinnati plain, cone.
No. 2½ Rockford universal, cone.
No. 3 Cincinnati plain, high power.
No. 3-B K. & T. vert., 42" table trav.
No. 4 Becker-Brainerd vertical.
No. 6 Becker-Brainerd vertical.
Putnam, Lincoln type (3).

## PLANERS

24"x24"x 6' Cincinnati, 1 head.
24"x24"x 6' Whitcomb, 1 head.
66"x66"x17' Harrisburg, 2 heads.

## SCREW MCHS. & TURRET LATHES

1" Smith screw machine, plain head.
1¼" Acme screw mche., friction hd.
No. 1 Warner & S. hollow hexagon.
3"x36" J. & L. flat turret, grd. hd.
21"x10' Gisholt, 3-jaw chuck.
No. 53 National-Acme automatic.

## SHAPERS

14" Barker crank.
20" Milwaukee crank.
21" American b. g. crank.
28" American b. g. crank.

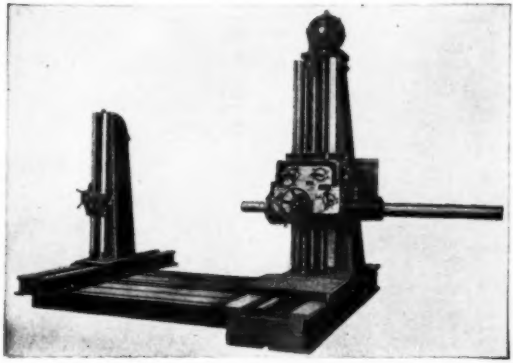
## SAWS

Q. & C. cold saw.
Klemm metal band saw.
No. 5 Marvel hack saw.

MARSHALL & HUSCHART MACHINERY CO.

**17 So. Jefferson St., Chicago, Ill.**

# Used Less Than One Week



**LANDIS No. 40 FLOOR BORING MACHINE,** with 4" diameter spindle, as illustrated, arranged for motor drive, and equipped with Westinghouse 7½ h. p., 220 volt, 60 cycle, 3 phase motor and control. Extra equipment with this machine includes one star feed facing head, one adapter for inserted tooth cutters, one plain head for boring large diameters, one Universal tilting and revolving table, pump, piping and motor for operating pump. Weight, net, 25,500 lbs; maker's serial No. 649; maximum distance center of spindle to floor plate, 72"; minimum distance center of spindle to floor plate, 18"; Morse taper in spindle, No. 6; size of floor plate or base, 96"x72"; continuous feed of spindle, 45".

☞ **This machine is 98% NEW, actually.**
Price, subject to prior sale, f. o. b. Phila. ____ **$6,000.**

***Send for list of other used tools we have for sale***

## Monarch Machinery Co.

**300 North Third Street, PHILADELPHIA, PA.**

# America's Greatest Values

### PIPE MACHINES

2" Curtis.
6" Bignall & Keeler.
12" Bignall & Keeler.

### PRESSES

No. 74½ Bliss s. s. 6" stroke.
No. 75½ Bliss s. s. 6" stroke.
No. 88 Toledo s. s. 6" stroke.
No. D 201 Ferracute s. s. 16" str.
No. 256 Toledo s. s. double crank.
No. 8N American, o. b 1½, 3" str.
No. 5 Bliss Stiles type. 2½" str.

### STRUCTURAL MACHINERY

No. 1 Cleve. I-Beam Straightener.
6x6x1" Double Angle Shear.
15" Pels I-Beam Shear.
10" thr. Cleve. Horz. Punch 1" cap.
20" thr. Cleve. s. e., Punch ¾" cap.
24" Whiting s. e. Punch 1" cap.
36" Cleveland, s. e. Punch 1" cap.
42" Whiting s. e. Punch 1" cap.
48" Cleveland s. e. Punch 1" cap.
Stand Eng. Beam Cooper & Notcher
Long & A.hvy. duty Punch, Style D.
No. EG6 Ferracute s. s., 3" str.

### PLANERS

16"-16"x45' Modern, 1 head.
22"x22"x 5' Gray, 1 head.
24"x24'x 6' Gray, 1 head.
36"x32"x10' Pond, 1 head.
48"x48"x14' Patch, 4 heads M. D.
48"x48"x14' W. & P., 4 hds. M. D.
48"x28"x18' New Haven, 2 heads.

### SHEARS

14" G. & Mc. Rod Shear.
16" Carlin Alligator Shear.
24" Chicago Alligator Shear.
4' Carlin Alligator Shear.
5" Carlin Alligator Shear.
6½" United Alligator Shear.
20" Mesta Bloom Shear.

### GRINDERS

18"x2' U. S. Floor Grinder, m. d.
No. 2 Diamond Wet Tool Grinder.
12"x36' Fitchburg Plain.
16"x36' Landis Universal.
16"x66' Landis Universal.
16"x68' Landis Crankshaft.
26"x96' Landis Plain, with crankshaft attachment.

### ENGINE LATHES

12"x 5' Vernon, q. c. g., t. a.
16"x 6' Putnam, taper attach.
16"x 8' Bradford, q. c. g.
19"x10' LeBlond.
20"x10' Bradford.
21"x12' LeBlond, q. c. g.
24"x12' American, q. c. g.
30"x16' LeBlond. q. c. g.
36"x30' American, q. c. g., grd. hd.
36"x32' Bridgeford, q. c. g., " "
42"x22' American, " "
42"x23' Putnam, " "
42"x30' American, " "
42"x31' Putnam, " "
48"x24' Bridgeford, " "
60"x40' Fifield, triple grd.

### BORING LATHES

36"x40' Bridgeford Geared Head.
36"x56' Bridgeford Geared Head.
39"x48' Amalgamated Grd. Head.
39"x64' Amalgamated Grd. Head.
48"x44' Bridgeford Geared Head.
48"x50' Amalgamated Grd. Head.

### HAMMERS (Steam)

300-600-800-1000-1200-2000-2500-4000 and 6000 single & double frame.

### HAMMERS (Board)

400-600-800-1000-2000-2500 and 3000 Bliss and Chambersburg.

### BOLT CUTTERS

No. 3 Geometric, cap. ⅞".
1½" National double head.

### RIVETERS

Allen 32" thr., 16" gap.
Allen 34" thr., 14" gap.
Allen 66" thr., 13½" gap.

### MISCELLANEOUS

6' Niles Plate Bend Roll, ½" cap.
1½" Ajax Forging Machine.
6' Lennox Rotary Shear.
6" class A Lovekin Flanging Mch.
6' N. B. P. Radial, t. a.
8-spdl. Bausch Multi Drill, 1" cap.
90" Newton Cold Cutting-off Saw.
62" Newton Cold Cutting-off Saw.
36" Newton Cold Cutting-off Saw.
20" Newton Cold Cutting-off Saw.
No. 4B W. & W. Bulldozer.
72" Colburn Vertical Boring Mill.
30" Bullard Boring Mill.
10", 16" to 20" Slotters.

***NOTE: For boiler, compressors, generator, steam engines, motors, etc., see our stock. Complete list on request.***

## Harris Brothers Company

**35th and Iron Sts.**
**CHICAGO**

**17 State Street**
**NEW YORK**

# Must Vacate Our Warehouse
# Attractive Prices to Move Stock

## *Hundreds of Other Bargains!*

**BLOWERS:**

2—No. 8 Sturtevant Pressure, bottom horizontal discharge. Outlet 13" dia., each ..... $ 60.

2—No. 8 Buffalo Volume Blowers, one 13" dia. outlet, one 16⅜", each ..... $ 60.

**BORING MILLS:**

1—Warner & Swasey 30" Vert. Turret Boring Mill, table 29" dia., single pulley drive..... $ 250.

1—Bridgeport 36" 48" Extension Vertical Boring Mill, one swivel head..... $ 350.

1—Betts 72" Vertical Boring Mill, table 60" dia., 7½" thick. 2 swivel heads. Weight about 34,000 lbs. ..... $ 750.

**DRILL:**

1—Aurora 24" Double Back Geared Upright Sliding Head Drill with tapping attachment. Table 21"x21" ..... $ 150.

**LATHES:**

1—McMahon 16"x6' Lathe, ¾" hollow spindle, 14" 4-jaw Independent chuck, as is..... $ 75.

10—Walcott 26"x10'6" Hvy. Duty Qk. Change Gear Engine Lathes, dbl. bk. grd., 2⅛" hollow spdl., standard equip., 95% new, ea... $ 690.

1—Putnam 28"x14' Engine Lathe, 10' centers, ⅞" hole in spdl., comp. and steady rests, large face plate, c. s. Weight about 5000 lbs.... $ 225.

1—Fox Turret Lathe 16"x5', 6-hole turret, 1¼" holes, hand feed to turret, hollow spindle, chasing bar, 13" 3-jaw chuck. Countershft. $ 125.

**MILLING MCHE.:**

1—Cincinnati No. 3 Plain Milling Mche. with overhanging arm. Table 12"x3'11". As is $ 250.

**COLD SAWS:**

1—Wagner Size 18 Type 3 for 18" dia. saw. Vise has jaws 10" long, 4" deep, open 6". Hand geared ratchet feed ..... $ 75.

1—Ghem No. 22. Takes 22" dia. saw. Capacity: round 6", square 5½", I-beams 8", channels 10", angles 6", 100 lbs. rails. Screw hold-down. Countershaft..... $ 150.

**MISCELLANEOUS:**

Screw Jacks 21" high, 2" dia. Screw, ea... $ 5.

Barrett Ratchet Jack, 3 ton, 24" high..... $ 5.

Large Lot Taps, Dies, Wrenches, Small Tools, etc., 2½¢ per pound. Why not let us make you up a shipment of 200 or 300 pounds?

33—Machinists Bench Vises 4" to 7", pl. & swiv. jaw & swiv. base. Plain jaw, $1.50 per inch. Swivel jaw $2.00 per inch.

Yale & Towne 3-Ton Hoist ..... $ 30.

## RUSSELL MACHINE COMPANY

**28th St. & A. V. R. R., PITTSBURGH, PA.**

# BARGAINS

Upsetter, 1½" Acme, steel bed.
Ingersoll, Planer Type Millers, all sizes.
Radial Drill, Western 5'.
Bolt Cutter, all sizes, Acme, National and Landis.
Toggle Press, Toledo No. 268¼, weight 175,000 lbs.
Press, Toledo No. 95-C, weight 48,000 lbs.
Press, Toledo No. 169¼, 26" stroke.
Press, Bliss Double Crank, No. 8-A.
Toggle Drawing Press, Bliss No. 14-B.
Press, Toledo No. 58½, weight 40,000 lbs.
Hendey Lathes, Geared Head, Motor Drive, tapping attach., 16"x6'.
American Lathes, Geared Head, Motor Driven, tapping att., 16"x8'.
Libbey Lathes, 18", Air Chucks, A-1 condition, cheap.
Cutting-Off Machine, Hurlburt-Rogers, 4" & 5" capacity.
48x48x14 Woodward Powell Planer.
48x48x14 Cincinnati Planer.
Boring Mills, King 42" and 52" King, motor driven.
Boring Mills, 54" Bullard, motor drive.
Boring Mill, 60" Baush, A-1 condition.
Grinders, Landis 16x48 and 16x68, like new.
Openside Planer, 36x36x10' Detrick & Harvey.
Punches and Shears, all sizes.
Lennox Rotary Shear, 1" capacity.
Traveling Cranes, all sizes.
36" Oliver Band Saw—like new.
48"x48"x14' Gray Planer, three heads, belt drive.
36"x36"x10' Pond Planer, three heads, belt drive.
36"x36"x10' Gray Planer, three heads, belt drive.
Shaper and Milling Machine, Morton, cap. 70" horizontal travel, 48" vertical travel, 60" spindle travel.
Gear Planer, Gleason, cap. 10' Spur Gears, motor driven.
Boring Mill, Horizontal, No. 770 Niles, vertical travel 30", spindle travel 75", 5½" bar; will bore hole 6' long with variations less than .003".

**Six Hundred Additional Machine Tools in Stock**

***Mail us your inquiries, address—***

## D. M. Osborne Machinery Company

**P. O. Box 853, Station "H"** **Cleveland, Ohio**

# ReMANUFACTURED MACHINE TOOLS

-(ORIGINATED BY US)-

REG. U. S. PAT. OFF.

**In our stock we have approximately 2000 high grade machine tools ready for immediate delivery. All are bargains and every one is guaranteed. Write for our latest complete "Green List" and prices.**

**LATHES**
2—13"x 5' Willard.
2—14"x 6' Rockford.
1—14"-16"x 8' Lodge & Shipley.
5—18"x 8' Boye & Emmes.
30—20"x 8' American.
14—20"x 8' LeBlond.
5—20"x12' American.
5—20"x16' American.
20—21"x10' LeBlond.
10—24"x11' Cisco.
3—24"x12' Providence.
1—24"x15' Chard.
1—24"x24' Lodge & S. selective hd.
7—25"x10' LeBlond.
10—25"x12' LeBlond.
24—26"x10' Canada.
10—26"x18' Bridgeford.
18—32"x12' Pittsburgh.
1—36"x18' Putnam geared head.
4—36"x30' Pittsburgh Geared Hd.
3—36"x37' Niles Bement Pond.
1—51"x20' LeBlond.
1—56"-64"x18' Johnston.
1—60"x18' Johnston.

**MILLERS**
2—No. 1B Milwaukee.
5—No. 2 Kempsmith.
3—No. 2 Rockford.
2—No. 28 Ohio.
6—No. 2-B Hvy. Brown & Sharpe.
4—No. 3 Kempsmith.
9—No. 3-B Hvy. Brown & Sharpe.
1—No. 3B Milwaukee, Universal.
2—No. 4 Cincinnati.
2—No. 4 LeBlond.
3—No. 4-B Becker.
2—No. 3 Cincinnati Vertical.
2—No. 4 Cincinnati Vertical.
4—No. 5-C Becker.
3—No. 6 Becker.

**BORING MILLS—Vertical**
2—24" Bullard "New Era."
1—42" Gisholt.
1—44" Niles Bement Pond.

**BORING MILLS—Vertical—Cont.**
1—48" Gisholt.
3—52" King.
1—54" Bullard.
3—62" King.
3—72" Cincinnati.

**BORING MILLS—Horizontal**
3—3" Foote-Burt.
1—No. 3A Universal.
1—No. 3 Rochester Floor Borer.

**DRILL PRESSES**
1—20" Barnes all geared.
1—34" Barnes.
1—36" Snyder.
1—No. 24 Foote-Burt.
1—No. 25 Foote-Burt.
6—No. 23 2-spdl. Henry & Wright.
1—3-spindle Henry & Wright.
4—6 spindle Allen.

**PLANERS**
1—24"x24"x 6' American.
1—24"x24"x 6' Liberty.
2—36"x36"x10' Bickett.
1—36"x36"x12' Woodward & P.
3—36"x36"x18' Cincinnati.
3—42"x42"x10' Gray.
1—72"x56"x36' Cincinnati.

**GRINDERS**
3—6"x18" Landis.
12—10"x36" Norton.
3—10"x72" Norton.
3—12"x26" Modern.
11—14"x50" Norton.
1—16"x72" Norton.
1—18"-30"x96" Norton Gap.

**PRESSES**
2—No 4 Walsh.
1—No. 32 Toledo Solid Back.
1—No. 34 Toledo Solid Back.
1—No. 74½ Bliss Geared.
1—No. 75½ Bliss Geared.
1—No. 93-A Toledo Double Crank.
1—No. 94-F Toledo Double Crank.
1—No. 69 Stoll Geared.
1—No. 87 Bliss Geared.

***Our Guarantee: Your money back if you return a machine within thirty days, freight prepaid.***

**HILL, CLARKE & CO. of CHICAGO,** 649 W. Washington Blvd., CHICAGO, ILL.

PMTBB-61-RTG

# J. J. McCABE SINGER BUILDING NEW YORK CITY

## McCABE "2-in-1" LATHES

**Used but rebuilt in our own shop**

26—48" swing, 12' bed.
32—54" swing, 14' bed.
26—48" swing, 24' bed, large geared plate, taper attachment.

## USED "2-in-1" LATHES

**McCabe—Former Pattern**

24—40" swing, 10' bed.
26—44" swing, 10' bed.

## NEW "2-in-1" LATHES

**12-ft. to 32-ft. Beds**

## BIG LATHE

66" swing, 42' bed, Putnam triple geared, arranged for motor drive.

**A fine tool for the Big Shop requiring equipment of the better kind**

## OTHER LATHES

14" sw., 8' bed, Sidney, q. c.
15" sw., 6' bed, Sebastian.
18" sw., 10' bed, McCabe, q. c.
18" sw., 12' bed, Schumacher & B.
21" sw., 12' bed, McCabe, q. c.
24" sw., 14' bed, Prentice.
26" sw., 14' bed, Niles-Bement-P.
32" sw., 20' bed, McCabe, q. c.
42" sw., 16' bed, McCabe, geared head, quick change.
50" sw., 20' bed, Pond.
50" swing, 24' bed, Bement-Miles, triple geared.
60" sw., 28' bed, Wickes.
84" sw., 46' bed, Putnam, motor-dr.
110" swing, 42' bed, Bement-Miles, 5" blocks.

## LARGE BORING MILL

96" sw., Niles Vertical Boring and Turning Mill, 2 swivel heads, table 68" diam, 54" height, under tool. Double box cored housings, cone-drive. Rated A1.

## PLANERS

84"x60"x30' Pond, 4 heads.
72"x72"x24' Niles, 4 heads.
54"x54"x12' Pond, 4 heads.
48"x48"x15' Pond, 2 heads.
36"x36"x12' Gray, 2 heads.
26"x26"x 6' Niles, 1 head.

## *A FEW OF THE OTHER BARGAINS*

16" stroke, Smith & Mills Shaper.
18" stroke, Ohio Shaper.
No. 15 Bliss Press.
28" Espen-Lucas Cold Saw.
"1M" Q. & C. Cold Cut-Off Saw.
25 lb. Dupont Hammer.
50 lb. Little Giant Power Hammer.
50" Bullard Boring Mill.
42" Baush, motor drive.
No. 3 Baker Keyseater.
2½' arm Radial Drill, speed box.
4' arm Radial Drill, speed box.
24" stroke, Bement-Miles Slotter.
21" Turret Lathe, Gisholt Gap.
3x36" Jones & L. Turret Lathe.
Horizontal & Vert. Newton Miller.
No. 5 Hendey, Lincoln type Miller.
No. 3 Cincinnati Plain Milling Mch.
No. 22 Brainerd Plain Milling Mch.
4½" bar, Bement-Miles Horizontal Boring Mill.
42" throat Perkins Punch.
50" throat McCabe Punch & Shear.
60" throat H. & J. Horiz. Punch.
10' McCabe Rolls, drop end.
800 lb. Bement Steam Hammer.
1½" Acme Bolt Cutter.
3—Hack Saws.

***MANY OTHER LARGE TOOLS—***

***of the kind rarely found on the Used Machinery Market.***

***WRITE FOR THE NEW COMPLETE LIST***

# J. J. McCabe Lathe & Machinery Corp'n

**SINGER BUILDING - - NEW YORK CITY**

# *FOR SALE BY*

# The Co-Operative Machinery Co.

**7514 Indiana Ave., Cleveland, O.**

| | |
|---|---|
| National Acme Bolt Threader, two spindle, with two No. 36 die heads | $ 200. |
| No. 26 Atlas Arbor Press, like New | 100. |
| Drill Press, used 10" Winterhoff Bench, ½" capacity | 35. |
| Drill Press, 2 spdl. Ball Bearing Allen, good condition | 250. |
| Drill Press, 20" Silver Back Geared, light type | 100. |
| Drill Press, 20" Superior Plain, wheel and lever feed | 60. |
| Grinder, used Detroit Centerless | 250. |
| Grinder, used Capital Internal | 290. |
| Grinder, No. 2 Webster & Perks 10"x30" Universal Cyl., complete with all regular equip. Tool in very good cond. | 575. |
| Lathes, Porter-Cable 9"x14" Mfg. Lathe, good as new | 275. |
| Lathe, 14"x6' Porter Engine Lathe | 200. |
| Lathe, Woods Model C Tilted Turret, plain head, power feed to turret, 10" Barker wrenchless chuck, fine condition | 450. |
| Lathe, used 13"x8' Willard, double back gear, fine cond. | 250. |
| Lathe, new 9"x24" Sundstrand Mfg., gear drive | 590. |
| Miller, used No. 2 LeBlond Heavy Duty Plain | 575. |
| Miller, new No. 1½ Rockford Plain | 1007. |
| Millers, used U. S. Hand Millers, good condition ..... each | 130. |
| Motor, 7½ H. P. Western Electric, d. c., 230 volt, 1750 r. p. m., complete with rails, pulley and starter | 90. |
| Punch and Shear, mfrd. by King Bridge Co., 16" throat, 1½" stroke, punch ¾" thru ¾", shear 4½"x3"x5/16" angle | 300. |
| Screw Machine, used No. 1 Garvin Plain, practically new | 195. |
| Tumbling Barrel, No. 2 Globe Hexagon Horizontal, 13½" diameter, x24" long with 8" hand hole | 65. |

---

7—No. 55 National Acme Automatics, serial Nos. 9293, 9290, 9606, 10144, 7448, 9069, 7445, complete with Motors, 5 h. p., 3 phase, 60 cycle, 440 volt.

1—No. 515 National Acme Automatic, motor driven, with 3 h. p. Western Electric Motor, 440 volt, 1800 r. p. m.

3—Model "A" Cleveland Automatics, used but 60 hours, absolutely like new, complete with all regular equipment.

1—No. 53 National Acme Automatic, serial No. 10109, motor driven with 5 h. p. Robbins & Meyers Motor, 440 volt.

# Good Used Tools

2 Spindle (12" overhang) ALLEN H. S. B. B. Drill Press.

4 Spindle (12" overhang) ALLEN H. S. B. B. Drill Press.

12"x5' VERNON Q. C. G. Lathe with taper, like new.

20"x10' MONARCH Q. C. G. Lathe.

3½"x60" LO-SWING Lathe.

Type B BRIGGS Milling Machine—34" feed.

Type B BRIGGS Milling Machine—42" feed.

24"x24"x24" CINCINNATI Crank Planer.

72"x56"x14' GRAY Planer, 2 heads.

**Stocker-Rumely-Wachs Co.**

**117 N. Jefferson St., Chicago, Ill.**

# POWER PRESSES

## FOR SALE

**TOGGLES**

Nos. 1½, 3½ & 4A Bliss.
Nos. 166, 168 & 169¼S Toledo.
Nos. SA175, 184 & 953 Ferracute, Double Crank, 72" to 112" between uprights.

**STRAIGHT SIDE**

Nos. 54, 55 & 55½ Toledo.
Nos. 74 & 75½ Bliss.
No. 54G Garrison.
Nos. D73 & D54 Ferracute.

**DOUBLE CRANKS**

No. 4B Bliss 42", M. D.
No. 6J Standard, 44" M.D., new
No. 165S Consolidated, 41", Fly.
No. SG87 Ferracute, 99" Grd.
No. SG79 Ferracute, 100" Grd.
No. SRG102 Ferracute, 40" Grd.
No. SRG104 Ferracute, 58" Grd.

**Finest Selection in the Country**

***Write or Wire for Complete List***

# Joseph HYMAN & Sons

**Richmond St. and Erie Ave., Philadelphia, Pa.**

**Phone Regent 7727**

# Over Three Hundred Items In Stock for Your Selection

## Some of the Larger Tools

60" Betts Vertical Boring Mill, 2 heads.
42" Bullard Vertical Mill, 2 heads.
24"x24' Niles Lathe, loose change.
30"x11' Pond Lathe, triple geared, arranged for motor.
30"x12' Lodge & Davis Lathe, cone drive.
36"x16' Fifield, cone drive, 24" chuck.
40"x16' Niles-Bement-Pond, triple geared, quick change, with motor, nearly new.
46"x18' New Haven Lathe, triple geared, blocks to 62".
42"x20' Niles, triple geared.
24" Gisholt Turret Lathe, fine shape.
28" Gisholt, fine condition.
54" Niles Horizontal Boring Mill, 4" bar.
5½' Niles Full Universal Radial, arranged for motor.
6½' Niles Full Universal Radial, with motor.

## LATHES

13"x21"x8' New Willard Gap Lathe, costs new $765 , at a Big Saving.
14"x 8' Carroll-Jamieson, q. c.
14"x 8' Monarch, q. c.
16"x 6' Hendey, q. c., overarm brace.
16"x 6' Monarch. q. c., geared head.
16"x10' American, q. c.
20"x10' Hamilton, q. c.

## DRILLING MACHINES

24" Hoefer, 2 spindle, nearly new.
30" Cincinnati-Bickford late type Radial, Single Pulley.
28" Aurora Sliding Head Upright, tapping attachment.
30" Cincinnati Upright, Tapping.

## SHAPERS

14" Rockford, crank.
16" Stockbridge, crank.
16" Hamilton, heavy duty, crank.
20" Queen City, crank.

## MISCELLANEOUS

PIPE MACHINES, Jarecki and Oster makes.
Newton Slotting Machine.
2" ACME Bolt Cutter, with gear box and A. C. Motor.
No. 6 Warner & Swasey Turret Lathe, power feed.
BROWN & SHARPE, CINCINNATI, BECKER, etc., Horizontal and Vertical Milling Machines.

**Air Compressors, Engines, Boilers, Punch and Shears, Stamping Presses, Vises, Leather Belting, Etc., Etc.**

# Norton-Broadway Machinery Co.

**238 Broadway, Cincinnati, Ohio**

# POWER PRESSES

## Inclinable

No. 6 Niagara, 3" stroke, weight 4200 lbs.
No. 5 Toledo, geared, 5" stroke, weight 4000 lbs.
No. 4 Toledo, 2½" stroke, weight 3000 lbs.
No. 20 Bliss, 2½" stroke, weight 2250 lbs.

## Straight Side

No. 75½ Bliss, 3" stroke, weight 13,500 lbs.
No. 62 V. & O. geared, 6" stroke, weight 6600 lbs.
No. 6 Rockford geared, 7" stroke, weight 6500 lbs.
Perkins Double Crank, 34" bet. uprights, wt. 4200.
10' Ohl Power Brake, 10 gauge capacity.

***142 Other Presses—Low Prices***

## J. N. MOYER

**117 N. 3rd St., :-: Philadelphia, Pa.**

# Are You Thinking—

**Of installing a Radial Drill? If so, the following machines are REAL bargains:**

1—2½' Standard type, heavy duty, MUELLER radial drill, gear drive.

1—3' Standard type, heavy duty, MUELLER radial drill, gear drive.

1—4' Standard type, heavy duty, MUELLER radial drill, gear drive.

**Prices will arouse interest**

***Write and Satisfy yourself***

## The Mueller Machine Tool Company

**Radial Drills and Lathes**

**ESTABLISHED 1902 CINCINNATI, O.**

| | |
|---|---|
| Warner & Swasey No. 4 Turret Lathe, 85% | $ 575. |
| Warner & Swasey No. 6 Turret Lathe, 85% | 675. |
| Cincinnati-Acme 3¼"x36" Turrets, 85% | 575. |
| Libby 18" Turret Lathes, (4), 80-85% each | 925. |
| Bullard 24" Vertical Turret Lathe, 80% | 1050. |
| Cleveland Model "B" ½" & ⅜", 90% | 215. |
| Betts Horizontal 3" Bar Boring & Drilling | 625. |
| Oesterlein No. 3 Universal Grinder, 85% | 350. |
| Pratt & Whitney 14" Vertical Surface Grinder | 650. |
| Garvin No. 2 Auto. Tapping Machine, 90% | 250. |
| Becker No. 6 Vertical Miller, 80%-85% | 950. |
| Foote-Burt No. 17 Adj. 4-Spindle Drill, 90% | 1150. |
| Bradley 200 lb. Rubber Cush. Helve Hammer | 625. |
| High Speed Riveting Hammers Nos. 2-A, 3-A, 4-A, 5-A. | |
| Bertsch 10' Shear, ⅛" capacity | 1050. |
| Niagara No. 416-C Slitting Shear, 85% | 575. |
| Sellers 15" Slotter, 75-80% | 525. |
| Porter Lathe 20"x10' Loose Gear, 75-80% | 275. |
| 20 Tumbling Barrels 20"x40", Per Set | 340. |

## 75 PRESSES
## and
## Hundreds of Other Machine Tools In Stock

# D. C. OVIATT & CO.

1102 St. Clair Avenue, Cleveland, Ohio

# Special Bargains

## *Write for Information*

36" Gisholt Boring Mill.
42" Gisholt Boring Mill.
5' Fosdick Universal Radial Drill.
60" Gould & Eberhardt Gear Cutter.
72x54x24 Pond Planer.
36x36x24 Pond Planer.
No. 13-B Brown & Sharpe Plain Miller.
No. 3 Brown & Sharpe Vertical Miller.
No. 2-A Warner & Swasey Hollow Hexagon Turret Lathes.
21" Gisholt Turret Lathe.

**The H. A. Smith Machinery Company**

**Syracuse, New York**

# SELECTED USED MACHINE TOOLS

MILLING MACHINES

B. & S. No. 2-B Hvy. Pl..$ 950.
B. & S. No. 3 Plain..... 1100.
American No. 1½ Plain..... 350.
Kempsmith No. 3 Plain... 675.
Cinti No. 4 Pl., very fine condition, with extra eq. 2000.
LeBlond No. 4 Plain..... 700.

LATHES

17"x5' LeBlond Rapid Production with 12" 4-jaw universal chuck.....$ 250.
21"x8' LeBlond Auto., with Turret Tool Post..... 350.
20"x8' Hendey Q. C. G., with taper attach., 16" 4-jaw independent chuck.. 750.
25"x12' LeBlond Mfrs. Production with turret on shear, oil pan, pump and 24" 4-jaw comb. ck. 1100.

METAL PLANERS

32"x32"x10' Gray Spur-Geared, 2 Heads.....$1600.

METAL PLANERS—Cont.

36"x36"x12' Gray Spur-Geared, 2 Heads.....$2150.
48"x48"x31' Gray Spiral-Geared, 4 Heads..... 5300.

RADIAL DRILLS

2' Mueller, with tap. att....$ 600.
3' Fosdick, with Gear Box 850.
3½' Fosdick, with gear box 1000.
5' Fosdick, Full Universal 1000.
5' Hamilton Plain..... 875.
6' Hamilton Plain..... 1100.

MISCELLANEOUS

Baker Bros. No. 3 Keyseater, with full equipment bars and cutters....$ 700.
Giddings & Lewis No. 0 hor. Bordrilmil, factory rebuilt, practically new.. 2800.
Giddings & Lewis No. 35 Hor. Bordrilmil, factory rebuilt, practically new.. 4250.
Gisholt 30" Vertical Boring Mill..... 500.

**THE E. A. KINSEY CO.,** 335 West Fourth Street, **CINCINNATI, O.**

***BRANCHES:*** INDIANAPOLIS, IND., HAMILTON, OHIO, DAYTON, OHIO, LOUISVILLE, KY., COLUMBUS, OHIO

# LIQUIDATION SALE

## Holmes Automobile Company, Canton, O.

2—No. 60 Heald Internal Grinders.
1—No. 33 New Britain Automatic 5-spindle, serial 6729.
1—42"x20"x20' Fixed Rail Slab Miller, Ingersoll.
1—2" Cleveland automatic Screw Machine, Class B, latest type, h. s. drilling attachment, Serial 29694, 95%.
1—5A Potter & Johnston Automatic, serial 20679, 90%.
5— 9"x20" Porter & Cable Lathes.
2—21" Gisholt Turret Lathes.
3—Valve Grinders, Misch.
4—No. 6 Whitney Hand Millers.
3—No. 1 Kent-Owens Hand Millers.
1—No. 2 J. N. La Pointe Single Broaching Machines.
2—No. 3 Kempsmith Plain Millers.
2—24" Hoefer Sliding Head Drills, b. g., p. f., square tables.
4—16" Henry & Wright class K, double spindle B. B. Drills.
1—No. 17D Moline 4-spindle Hole Hog Drill, 20" swing.
2—4' Hammond B. B. Radial Drills with tappers.
1—No. 315 Baker High Duty Drilling Machine.
1—No. 2X Garvin Automatic Tapper.
1—No. 2 International Vertical Tapper.
1—No. 1 W. & S. Screw Machine, a. c., b. feed, p. f. turret.
2—1" Millholland Screw Machines, a. c., b. feed, h. f. turret.
1—2" Garvin Screw Machine, a. c., b. feed, p. f. turret.
1—24"x 8' Bridgeford Chucking Lathe, with hex. turret.
1—16"x 6' Fulton Lathe, compound rest.
1—20"x 8' Whitcomb-Blaisdell Lathe, q. c. g., compound rest.
1—15"x 6' Sidney Engine Lathe, p. f., turret on shears.
1—No. 14 Brown & Sharpe Plain Grinder.
1—No. 2 Bath Universal Grinder.
1—No. 103 Rivett Internal Grinder.

**Electric Japan Oven 12' x 20' x 8' 6", with conveyor 70' centers; Hanna Yoke Riveter; Vises; Belting; and many other machines not mentioned.**

***Write or call at plant for prices and other information. Private sale will continue until all equipment is sold.***

## Holmes Automobile Company

***Liquidation Department***

**Canton, Ohio**

# DO YOU NEED?

**All Tools Guaranteed and Tested**

1—16" Kelly Shaper - $500.00
1—20" Silk Smith Shaper 275.00
1—20"x5' Reed Lathe - 275.00

(Subject Prior Sale)

**Planers, Hand Screw Machines, Horizontal Production Milling Machine, etc.—**

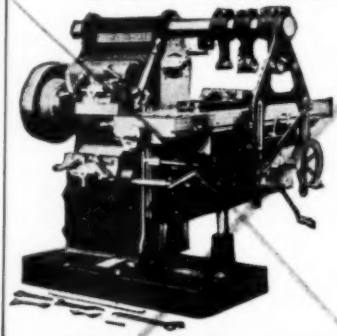
**All Kinds of Tools**

*Members St. Louis Chamber of Commerce*

**National Machinery Mfg. Co., Inc.**

**3505 Page Ave., National Bldg., St. Louis, Mo.**

## SLIGHTLY USED—



No. 4
**Cincinnati**
**Plain Milling Machine —**
rapid traverse, complete.

**LESS than HALF NEW PRICE**

**DAVIS, HOY & STUMPF**
**149 BROADWAY, NEW YORK, N. Y.**

## LATHES

36"x22' Putnam, t. g., semi-q. c.
30"x16' Houston, S. & G., q. c. g.
30"x12' R. K. LeBlond, q. c. g.
24"x10' R. K. LeBlond, q. c. g.
20"x10' Lodge & Shipley, quick chg., patent geared head.
20"x10' Bradford standard chg. gear.
18"x10' Greaves & Klusman, q. c. g.
18"x 8' Lodge & Shipley, q. c. g.
16"x 8' Hendey, quick change gear, yoke head and taper attachment.
16"x 8' Hamilton, q. c. g.
14"x 8' R. K. LeBlond, q. c. g.
14"x 8' Hamilton, q. c. gear, tool room, with taper, and relieving and draw-in attachments, with collets.

## TURRET LATHES

No. 3-A Warner & Swasey Univ. Hollow Hexagon Turret Lathe, grd. head.
24" Gisholt Turret Lathe, cone pulley drive.
No. 4-B Millholland Geared Head Universal Turret Lathe.
No. 4 Warner & Swasey Turret Screw Machine.
13" Gisholt Turret Lathe, cone pulley.

## MILLING MACHINES

No. 3-B Heavy B. & S. pl., sgl. pul.
No. 3 Cinti hi-pwr. pl., sgl. pulley.
No. 3 Cincinnati plain, cone pulley.
No. 3 Kempsmith pl., cone pulley.
No. 2-B B. & S. plain, sgl. pulley.
No. 0 Cincinnati plain, cone pulley.
No. 2 Cincinnati plain, cone pulley.
No. 2 Cincinnati High Power Vert. Milling Machine, single pulley.
28" Cinti semi-auto. duplex, belt dr.

## RADIAL and UPRIGHT DRILLS

4' Fosdick Heavy Duty Plain Radial, gear box drive, 95% new.
2½' Cincinnati-Bickford Plain Radial Drill, gear box drive.
4' Hammond High Speed Sensitive Radial, with tapping attachments.
28" Cincinnati-Bickford Upright, gear box drive, tapping attachment.
26" Rockford Upright Drill Press.
24" Milwaukee Upright Drill Press.
23" Rockford Upright Drill Press with tapping attachment.
22" W. F. & J. Barnes Upright Drill Press.
14" Allen High Speed Sensitive Ball Bearing Drill Press.
14" Leland-Gifford 2-Sp. High Speed Ball Bearing Sensitive, power feeds.

## GRINDERS

No. 60 Heald cylinder, complete equipment.
No. 6 Rivett internal chucking.
No. 3 Oakley universal tool room, water attachment, power feed.
No. 2 Brown & S. Univ. cylindrical.
No. 1½ Cin'ti univ. tool & cutter.
No. 3 Universal Machine Co. Automatic Surface.
6"x18" Landis plain cylindrical.
No. 17 Besly Disc, lever feed, plain tilting tables.

## MISCELLANEOUS

Air compressor, Chicago Pneumatic class N. S. B., belt drive.
Air compressor, 9"x9" Curtis vert. style twin cylinder, belt drive.
Bolt cutter, 1" Landis, belt drive, lead screw attachment.
Boring mill, 24" Bullard rap. produc. vert., tur. & side head.
Brake, 8' Robinson, cast iron, hand, cap. to 16 ga.
Brake, 8' Dries & Krump, power.
Broaching mch., 3-B J. N. LaPointe, late type, dbl. fric. pulley drive.
Die slotter, Garvin, belt drive.
Gear cutter, No. 12 Brown & Sharpe auto. spur and bevel.
Gear cutter, 3x36" Cin'ti auto. spur.
Gear hobber, 24" Schuchardt & S.
Hammer, helve, 50 lb. Bradley, rubber cushioned, belt drive.
Keyseater, No. 1 Davis, cap. 1/16"-1"
Keyseater, No. 00 Baker, cap. up to ¾"
Pipe mch., 4" Jarecki, pwr., bt. dr.
Planer, 30"x30"x8' Gray, 1 hd., bt. dr.
Planer, 30"x30"x12' Gray, 2 heads, belt drive.
Press, No. 3½ Toledo, o. b. i., power.
Press, No. 1 Sidney, o. b. i., power.
Press, No. 6 Niagara, o. b. i., power.
Shaper, 16" Queen City, crank.
Shaper, 20" Milwaukee, b. g. crank.
Shaper, 20" American Tool Works, hi-duty b. g. crank, cone pulley.
Shaper, 24" Cincinnati b. g. crank.
Shear, square, 36" Peck, Stow & W., foot power, cap. 18 ga.

***And Many Others. Send for Our Complete List***

# EASTERN MACHINERY CO.

**No. 408 East Pearl St., Cincinnati, Ohio**

1—MORRIS 4' Plain Radial Drill with motor on arm, practically new, including motor and starter ..... $2450.
1—MORRIS 18"x10' quick change, 3-step cone, dbl. bk. grd. Lathe, with taper attachment, first class condition..... 1000.
1—MORRIS 16"x8' qk. ch., Grd. Head Lathe, can be arranged for motor or countershaft drive, practically new..... 1100.
1—MORRIS 22"x10' 3-step cone, d.b.g., semi-qk.ch Lathe, A-1 950.
1—LeBlond 24"x12' quick change, 3-step cone, double bk. grd. Lathe, with belt shifter, first class condition..... 1150.
1—Bickett 42"x42"x20' 2-hd. Planer, arr. for mtr. dr., including a variable sp. 20 h.p. mtr., 220 v., d. c. Has never been used. 5000.
1—Warner & Swasey Hand Screw Machine, cone drive, back geared, with oil pump, first class condition..... 300.
1—Dreses 1" cone dr. Hd. Screw Mch., oil pump & collets, A-1. 200.
1—18"x8' Chard 3-step cone semi-qk. ch. Lathe, good cond..... 500.
1—14"x6' Monarch cone drive d. b. g., q. c. Lathe, good cond.. 175.
1—4"x20" wide Faced Grinder, first class condition..... 250.
2—Lincoln Millers, Type 10, rapid traverse to table, good, ea... 300.
1—Steptoe No. 0 Milling Mch., cone fd., first class condition... 300.
1—Hoefer 23" 2-spdl. Gang Drill, grd. fd., squared tables, A-1. 300.
1—Webster & Perks 5-spdl. Nut Tapper, first class condition.. 200.
1—MORRIS Horiz. Drilling & Boring Mch., t. a., pract. new 1500.
1—Thompson Elec. Butt Welder, Type 6, 230 v., sgl. ph., A-1. 900.
2—¾" 4-spdl. Gridley Automatics Nos. 2997 & 2765, with extra equipment, good condition, each ..... 500.
2—1¼" 4-spdl Gridley Autos. Nos. 6102 & 6103, extra equip., good cond., arr. for motor dr., including 5 h.p., a.c., 220 v. mtr., ea. 850.
1—1¾" 4-spdl. Gridley Automatic, pract. new, extra equip. arr. for motor drive, including 7½ h. p., a. c., 220 v. motor..... 1500.

**The Morris Machine Tool Co.,** Cincinnati, Ohio

# GRINDERS

## in good condition—at a fair price

Cutter & Tool, No. 1 LeBlond.
Cutter & Tool, 24" Ingersoll.
Double Disc, 18" Ney.
Double Disc, 20" Ransom.
Cylinder, Plain, 10"x24" Landis.
Plain, 14"x50" Norton.
Crank Shaft, 16"x52" Landis.
Plain, 16"x72" Landis, with motor.
Universal, No. 4 Landis.
Tool Room, No. 1 Bath.
Hole, No. 6 Bryant.
Ring, Vertical, 8" Heald.
Surface, No. 12 Pratt & Whitney.
Face, 30"x84" Diamond, with motor.

**THE E. L. ESSLEY · MACHINERY · CO**

551 W. Washington Blvd., Chicago. 78-80 W. Water St., Milwaukee

# Quitting Business

## Everything for Sale — No Reservations

Air Compressor, belted, Chicago 9"x11", belt drive.
Air Compressor, steam driven Imperial 10, 2-stage Duplex 888 cu. ft., steam ends 12"x16"; air 19"x16" & 12"x16"; 90%.
Air Compressor, steam, Ingersoll-Rand, 1000 cu. ft. single stage.
Bending Rolls, Niles Pyramid Type, capacity 1" plate 12' wide.
Bending Rolls, No. 7 Bertsch, angle, power driven.
Bolt Cutter, Landis, single spindle, 1" capacity, with dies.
Bolt Cutter, Acme 2-spindle, 1" capacity, complete with dies.
Bolt Cutter, Landis 2-spindle, 1" capacity, with dies.
Boring Mills, Baush 60", 2-heads, screw cutting, cone driven.
Boring Mills, Bullard 36", New Era Vertical Turret Lathe, 85%.
Bull Riveter, 108"—62 ton, 1" capacity, Pedrick & Ayer.
Butt Welder, Federal 65 KW, 3-phase 60-cycle 440-volts.
Butt Welder, Winfield 20 KVA, 3-phase 60-cycle 440-volts.
Cutting-Off Machine, Hurlbut-Rogers, 4" capacity, 95%.
Cranes, Toledo 30' span; 2-5 ton and 1-7½-ton, 3-ph. 60-cyc. 440-volt.
Gear Cutter, Gould & Eberhardt 36", single vertical cutter.
Grinder, Diamond Heavy Face Grinder, 84", arranged motor drive.
Grinder, No. 60 Heald Cylinder Grinder.
Grinder, Norton plain 14"x72", standard equipment.
Grinder, Norton plain 10"x52", standard equipment.
Grinder, Norton 22"x34"x120", crankshaft.
Grinder, Bath universal No. 2½.
Hydraulic Press, Metalwood No. 20 Forcing.
Hydraulic Press, Defiance Rim No. 4, 60-ton.
Lathe, 24"x12' Whitcomb-Blaisdell, compound rest.
Lathe, 24"x10' Boye & Emmes, compound rest.
Lathe, 20"x10' Hendey, compound rest.
Lathes, 24"x12' American, 3-step cone, d. b. g., with chucks, 90%.
Lathe, 36"x18' Lodge & Shipley Patent Head, compound rest.
Lathe, 36"x18' Lodge & Shipley Heavy Duty Geared Head, motor drive.
Lathe, 36"x20' New Haven, compound rest, 5-step cone, cheap.
Lathe, Low-Swing 4"x108", two carriages, 90%.
Lathe, 28" swing Gisholt Turret.
Lathes, J. & L. 2"x24" and 3"x36".
Lathe, 18"x10' Boye & Emmes, 3-step cone, d. b. g., 90%.
Milling Machine, No. 3 Universal Cincinnati.
Pit Lathe, 84" swing, very cheap.
Radial Drill, 8' Prentice, with taper.
Radial Drill, 4' American, gear box drive, with tapping attachment.
Radial Drill, 4' Fosdick & Holloway, cone drive, tapping attachment.
Radial Drill, 3' Hammond, gear box drive, tapping attachment.
Shaper, 24" Queen City, very good condition.
Upsetter, Acme 1½", steel bed, will sell cheap.

**Have a lot of Woodworking Machinery and Foundry Equipment; Electric Motors 5 to 50 h. p., 3-phase, 60-cycle, 220 or 440 volt; also large stock High Speed Twist Drills, Taps, Reamers, etc., new and used.**

***If what you want is not listed, write us, as we probably have it***

# Aultman & Taylor Machinery Co.

**Manufacturers of Farm Implements**

**MANSFIELD, OHIO Phone—Canal 1261**

# REAL BARGAINS— *Write or Wire Us for Details*

**Boring Mill**, 3A universal horiz.
**Drill Presses**, hi. spd. 1, 3 & 4 sp.
**Gear Cutter**, 36" B. & S. Auto.
**Gear Shaper**, No. 6 Fellows.
**Grinder Plain**, 7½x72" B. & S.
**Grinder Plain**, 12x36" Cincinnati.
**Grinder Plain**, 10x48" B. & S.
**Grinder Plain**, 6x15" Ott.
**Gr. Chucking**, No. 18 Bryant inter.
**Grinder Internal**, No. 75 Heald.
**Radial Drill**, 3' American sensitive.
**Lathe**, 13x6' Willard, d. b. g.
**Lathe**, 15x6' Champion, d. b. g.
**Lathe**, 16x8' Greaves-K. s. b. g.
**Lathe**, 17x6' Champion, d. b. g.
**Lathe**, 18x8' LeBlond, s. b. g.
**Lathe**, 18x8' Lodge & S., grd. hd.
**Lathe**, 20x10' LeBlond, d. b. g.
**Lathe**, 20x10' Greaves-K., d. b. g.
**Lathe**, 24x12' S. & B., d. b. g.
**Lathe**, 24x16' LeBlond extra hvy.
**Lathe**, 30x12' Greaves-K., d. b g.
**Lathe Turret**, 20" Acme pwr. fd.
**Lathe Flat Turret**, 21x26" Acme.
**Lathe Flat Turret**, 31x36" Acme.

**Relieving Machine**, 9x7" P. & W.
**Miller Hand**, U. S., Garvin, Fox.
**Miller Plain**, No. 1 Cinti. bk. grd.
**Miller Plain**, No. 1½ Cinti. bk. grd.
**Miller Plain**, No. 2 Kempsmith, b.g.
**Miller Plain**, No. 24 Oesterlein, b.g.
**Miller Plain**, No. 0 Steptoe bk. grd.
**Miller Univ.** No. 29 Oesterlein com.
**Planer**, 22x22x6' one head.
**Planer**, 30x30x10' Cinti., 2 heads
**Planer**, 30x36x18' Cinti., 4 hds.
**Planer**, 36x36x10' Gray, 2 hds.
**Planer**, 36x36x10' Am., 2 hds.
**Planer**, 42x36x16' Cinti. 4 hds.
**Screw Mche. Hand**, 1" Stenotype.
**Screw Mche. Hand**, ⅞" P. & W.
**Screw Mche. Auto.**, ¾" Cleveland.
**Screw Mche. Auto.**, ¾" Cinti. 5 sp.
**Screw Mche. Auto.**, ¾" Cleveland.
**Screw Mche. Auto.**, 2½" Cleveland.
**Screw Mche. Auto.**, ¾" Gridley.
**Screw Mches. Auto.** Nos. 52, 55, 56, 4 spindle National Acme's.
**Screw Slotter**, Brown & Sharpe.
**Tapper**, Webster & Perks 5 spdle.

**CINCINNATI AUTOMATIC MACHINE CO., Cincinnati, Ohio**

# FOR SALE

1—24"x10' Schumacher Boye & Emmes Lathe.
1—22"x12' Schumacher Boye & Emmes Lathe.
2—16"x 8' Giddings & Lewis Lathe.
1—22"x10' Advance Lathe.
1—20"x10' Advance Lathe.
1—20"x20' Advance Lathe.

With countershafts and transmission, face plate, steady rest, and chucks.

1—30" Rockford Sliding Head Drill Press.
1—32" W. F. & John Barnes Sliding Head Drill Press.
1—24" Hoefer Sliding Head Drill Press.

**All these used machine tools are in good operating condition, and are big bargains**

## Parker Motor Truck Service Co.

**606 Linus Street., :-: MILWAUKEE, WIS.**

# FOR SALE
## *SECOND-HAND*
# LATHES

24"x12' Boye & Emmes Gear Box, Double Plate Apron.

24"x14' Boye & Emmes Gear Box, Double Plate Apron.

24"x16' Boye & Emmes Gear Box, Double Plate Apron.

22"x14' Greaves & Klusman, with taper attachment and two steady rests. In first-class condition.

THE

**Boye & Emmes Machine Tool Co.**

**2245 Spring Grove Ave.**

**CINCINNATI, OHIO**

**NEW 3 PHASE MOTORS CHEAP. 3 H. P. $57.50; 5 H. P. $67.50**

## LATHES

9" to 13" Barnes, h. s., cp. r., new.
12"x 5' Cleveland, geared head.
14"x 8' Young.
14"x 6' Hamilton, grd. hd., motor dr.
14"x 6' Monarch, quick change.
14"x 8' Sidney, double back geared.
16"x 8' Sidney, double back geared.
18"x10' American, quick change.
18"x 8' Bradford, h. s., steady rest.
20"x10' Prentice, taper.
20"x10' Hamilton, rapid production.
24"x24' Prentice, with raising block.
25"x12' Sidney heavy duty.
28"x 8' Bridgeford, heavy duty.
Ames precision bench, ½" & 1" cap.
8x40" & 10x72" Fitchburg L.-Swing.

## TURRET LATHES and SCREW MACHINES

1¼" Tilted turret hand screw mche.
1" and 1½" Mulholland.
2x24 & 3x36 J. & L., dbl. equipment.
No. 3-B Foster, 5" capacity, new.
6" Gridley auto., single spindle.
Nos. 52 and 56 National Acme.
¾" P. & W. automatic, single spdl.
21" Gisholt.

## SHAPERS

14" Niles, traveling head.
14" Steptoe, crank.
16" American, tool room.
16" & 24" Barker, b. g. crank.
16" O. & S. b. g. crank, new.

## PLANERS

24"x24"x 6' Gray.
32"x32"x 8' Gray.
36"x36"x18' Pond.
60x60x17' Betts, 2 heads.

## PRESSES

Nos. 3-A & 6-A Willard inclinable.
No. 1 Toledo inclinable.
Nos. 1½, 2, 2½ & 4 Robinson.
Emco, bench, for radio parts.
No. 35 Niagara straight side.
Perkins, dbl. housing, wt. 4,000 lbs.

## DRILLS and RADIALS

3½' Silver, sgl. pulley, gear box dr.
3' & 4½' Morris plain gear box.
3½' Canedy-Otto plain, new.
4' Universal Radial Drill Co. plain.
Electric drills, Black & Decker.
22", 24", 26", 28" and 32", sliding hd.
20"—24" & 26" Barnes, all geared.
4-spindle Sigourney sensitive.
4-spindle Reed sensitive.
Electric drills, Thor, all sizes.

## MILLING MACHINES

No. 2 Kempsmith universal.
U. S. and Whitney hand.
No. 25 Becker plain, power feed.
No. 3 Kempsmith univ. and plain.
Nos. 2-A & 4-B Becker vertical.
No. 3 LeBlond, with vertical attach.
No. 2 H Brown & Sharpe plain.
Briggs type "A" high duty, 24x8 table.
No. 7 Becker Lincoln type.
Oesterlein 24x7½x18 plain.

## GRINDERS

Nos. 1, 3 & 78 W. & M. surface.
No. 2 W. & P. 10x30 universal.
6"x15" Fitchburg plain.
12x36 Cincinnati universal.
12x42" & 16"x30" Landis plain.
12"x72" Brown & Sharpe plain.
36" and 60" Yates plate.
Perfection cylinder.
No. 60 Heald cylinder.
Nos. 2 & 3 Ohio universal & tool.
No. 4 Gardner 20" double disc.
No. 20 Bryant, chucking.
B. & S. No. 24 dbl. spdl., cylinder.
Capital internal, new, 2"x2".

## MISCELLANEOUS

Band saw, metal, Klemm.
Band saws, Napier 4"x4", 10"x10".
Bending rolls, 7' for ⅜" plate.
Boring mill, Colburn No. 3, tur. hd.
Boring mill, 54" & 60" Colburn, 2 hds.
Brake, 10', 18-gauge metal.
Broaching machine, No. 3 LaPointe.
Cold saw, Burr, 3" capacity.
Compressors, 5x4, 8x8 and 12x10.
Drawing tables, adjust., 42"x6' top.
Gear cutter, 26" No. 3 B. & S.
Gear millers, Bilton No. 1, (8).
Hammer, 40 lb. Bradley, helve.
Hammer, 150 lb. Standard drop.
Oil separator, Springfield.
Pipe machines, 2", 4", 6" & 12".
Pumps, Gould triplex, 6½x8" & 7x8".
Punch & shear ½ by ⅜, 10" throat.
Riveting hammers, No. 3-A h. sp. (2).
Scale, 1500 lb. Toledo, dial type.
Scelerosoope, Shore.
Shear, 5' Robinson, for 10 gauge.
Shear, No. 20 Quickwork, 30" throat.
Shear, circular, Pettingell 60".
Slotter, 18" Bement-Miles.
Tapping mche., ⅜" Rickert-Shafer.
Tapping machine, Acme 6-spindle.
Threading mche., W. & P. 2-spindle.

**THE OSBORNE & SEXTON MACHINERY COMPANY**
**COLUMBUS DEPT. H. OHIO**

# Classified Finding Index

**Air Guns**
Powell Co., Wm., Cincinnati

**Arbors, Solid**
Nicholson & Co., W. H., Wilkes-Barre, Pa.

**Auto-Gages For Dies**
Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

**Automatics**
New Britain Machine Co., New Britain, Conn.

**Balancing Ways**
Anderson Bros. Mfg. Co., Rockford, Ill.
Bowsher Co., N. P., South Bend, Ind.

**Balls, Bearing and Burnishing**
Abbott Ball Co., Hartford, Conn.

**Band Saw Machines, for Metal**
Armstrong-Blum Mfg. Co., 341 N. Francisco Av., Chicago
Porter-Cable Machine Co., Syracuse, N. Y.

**Barrels, Tumbling**
Abbott Ball Co., Hartford, Conn.
Scully-Jones & Co., 2012 W. 13th, Chicago

**Bench Legs, Steel**
Angle Steel Stool Co., Plainwell, Mich.
New Britain Mchc. Co., New Britain, Conn.

**Bending Machines, Hand and Power**
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago
Hendley & Whittemore Co., Beloit, Wis.
Lewthwaite Mchc. Co., T.H.417E. 31st., N.Y.
Lourie Mfg. Co., Springfield, Ill.
Pedrick Tool & Machine Co., Philadelphia

**Bolt and Nut Machinery**
Economy Engineering Co., Willoughby, O.

**Boring Bars**
Pedrick Tool & Machine Co., Philadelphia

**Boring Bars, Cylinder**
Pedrick Tool & Machine Co., Philadelphia

**Boring Machines, Horizontal**
Avey Drilling Machine Co., Cincinnati
Morris Machine Tool Co., Cincinnati, O.
Pedrick Tool & Machine Co., Philadelphia
Rockford Drilling Machine Co., Rockford, Ill.

**Burnishing Equipment, Ball**
Abbott Ball Co., Elmwood, Conn.

**Bushings, Drill Jig**
Ex-Cell-O Tool & Mfg. Co., Detroit, Mich.

**Cabinets, Tool**
Angle Steel Stool Co., Plainwell, Mich.

**Chains, Power Transmission**
Whitney Mfg. Co., Hartford, Conn.

**Chucking Machines**
New Britain Mchc. Co., New Britain, Conn.

**Chucks, Collet**
Hardinge Brothers, Inc., 1770 Berteau Ave., Chicago

**Chucks, Drill**
Eastern Tube & Tool Co., Inc., 580 Johnson Ave., Brooklyn, N. Y.
Jacobs Mfg. Co., Hartford, Conn.
Scully-Jones & Co., 2012 W. 13th, Chicago
Titan Tool Co., Erie, Pa.
Westcott Chuck Co., Oneida, N. Y.

**Chucks, Drill and Tap**
Peter Bros. Mfg. Co., Algonquin, Ill.
Scully-Jones & Co., 2012 W. 13th, Chicago

**Chucks, Keyway Cutting**
Scully-Jones & Co., Ry. Exch. Bldg., Chicago

**Chucks, Lathe**
Westcott Chuck Co., Oneida, N. Y.

**Chucks, Wrenchless**
Thomas Elevator Co., 31 S. Hoyne Ave., Chicago

**Clamps, Die**
Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

**Clutches, Friction**
Edgemont Machine Co., Dayton, O.

**Cold Saws**
Burke Machine Tool Co., Conneaut, Ohio
Peter Bros. Mfg. Co., Algonquin, Ill.

**Collets**
Hardinge Brothers, Inc., 1770 Berteau Ave., Chicago

**Contract Work Wanted**
Burke Machine Tool Co., Conneaut, O.

**Counterbores and Spot Facers**
Glenzer Co., J. C., Detroit, Mich.

**Cranes, Portable**
Canton Foundry & Mchc. Co., Canton, Ohio

**Crank Pin Turning Machine**
Pedrick Tool & Machine Co., Philadelphia

**Cutters, Keyseating**
Davis Keyseater Co., Rochester, N. Y.
Scully-Jones & Co., 2012 W. 13th, Chicago
Whitney Mfg. Co., Hartford, Conn.

**Cutters, Milling**
Genesee Mfg. Co., Rochester, N. Y.
Whitney Mfg., Co., Hartford, Conn.

**Cutting-Off Machines**
Peter Bros. Mfg. Co., Algonquin, Ill.

**Cylinder Boring Machines, Portable**
Pedrick Tool & Machine Co., Philadelphia

**Dial Indicators**
Federal Products Corp'n, Providence, R. I.
Wallace Brothers, 160 N. Wells St., Chicago

**Die Sets**
Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

**Dies, Pipe Threading**
Signell&Kesler Mchc. Wks., Edwardsville, Ill.

**Drill Racks**
Peerless Machine Co., Racine, Wis.

**Drilling Machine Heads, Multiple**
National Automatic Tool Co., Richmond, Ind.
United States Drill Head Co., Cincinnati

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**Drilling Machines, Automatic Sensitive**
Kingsbury Mfg. Co., Keene, N. H.

**Drilling Machines, Bench**
Avey Drilling Machine Co., Cincinnati
Burke Machine Tool Co., Conneaut, Ohio
Kingsbury Mfg. Co., Keene, N. H.
Rockford Drilling Machine Co., Rockford, Ill.
Sigourney Tool Co., Hartford, Conn.
Taylor & Fenn Co., Hartford, Conn.

**Drilling Machines, Horizontal**
Kingsbury Mfg. Co., Keene, N. H.
Morris Machine Tool Co., Cincinnati, O.
Rockford Drilling Machine Co., Rockford, Ill.

**Drilling Machines, Multiple Spindle**
Avey Drilling Machine Co., Cincinnati
Kingsbury Mfg. Co., Keene, N. H.
National Automatic Tool Co., Richmond, Ind.
Rockford Drilling Machine Co., Rockford, Ill.
Sigourney Tool Co., Hartford, Conn.
Taylor & Fenn Co., Hartford, Conn.

**Drilling Machines, Portable Electric**
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago
Stow Flexible Shaft Co., Philadelphia, Pa.
Strand Co., N.A., 5001 N. Lincoln St., Chigo
Wisconsin Electric Co., Racine, Wis.

**Drilling Machines, Post**
Mueller Machine Tool Co., Cincinnati

**Drilling Machines, Radial**
Morris Machine Tool Co., Cincinnati, O.
Mueller Machine Tool Co., Cincinnati
Taylor & Fenn Co., Hartford, Conn.

**Drilling Machines, Sensitive**
Avey Drilling Machine Co., Cincinnati
Burke Machine Tool Co., Conneaut, Ohio
Kingsbury Mfg. Co., Keene, N. H.
Leland-Gifford Co., Worcester, Mass.
Sigourney Tool Co., Hartford, Conn.
Taylor & Fenn Co., Hartford, Conn.
Wisconsin Electric Co., Racine, Wis.

**Drilling Machines, Vertical**
Avey Drilling Machine Co., Cincinnati
Kingsbury Mfg. Co., Keene, N. H.
Leland-Gifford Co., Worcester, Mass.
Rockford Drilling Machine Co., Rockford, Ill.
Sigourney Tool Co., Hartford, Conn.
Taylor & Fenn Co., Hartford, Conn.

**Drills, Twist**
Cleveland Twist Drill Co., Cleveland, O.

**Dust Handling Equipment**
Knickerbocker Co., Jackson, Mich.

**Emery Wheel Dressers and Cutters**
Desmond-Stephan Mfg. Co., Urbana, O.
Precision Truing Machine & Tool Co., Cincinnati, O.
Taylor & Fenn Co., Hartford, Conn.
Western Tool & Mfg. Co., Springfield, O.

**Feeders, Oil and Soda Water**
New Britain Machine Co., New Britain, Conn.

**Filing Room Equipment**
Wardwell Mfg. Co., Cleveland, O.

**Flexible Shafts**
Strand Co., N.A., 5001 N. Lincoln St., Chigo

**Forgings, Hollow Bored**
American Hollow Boring Co., Erie, Pa.

**Forgings, Upset**
American Forge Co., 2631 S. Hoyne Avenue, Chicago

**Furniture, Machine Shop**
New Britain Machine Co., New Britain, Conn.
Western Tool & Mfg. Co., Springfield, O.

**Gauges, Piston and Piston Ring**
Federal Products Corp'n, Providence, R. I.

**Gauges, Thread**
Federal Products Corp'n, Providence, R. I.

**Gears**
Boston Gear Works Sales Company, Norfolk Downs, Mass.

**Grinding Machines, Belt**
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Peerless Surfacing Machine Co., Troy, N. Y.

**Grinding Machines, Bench**
Bodine Electric Co., 2256 W. Ohio St., Chgo.
Gallmeyer & Livingston Co., Grand Rapids, Mich.

**Grinding Machines, Cutter, Reamer and Tool**
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Jarecki Mche. & T. Co., Grand Rapids, Mich.
LeBlond Mch. Tool Co., R. K. Cincinnati, O.
Thompson Grinder Co., Springfield, Ohio
Wilmarth & Morman Co., Grand Rapids, Mich.

**Grinding Machines, Cylindrical**
Jarecki Mche. & T. Co., Grand Rapids, Mich.
Thompson Grinder Co., Springfield, Ohio

**Grinding Machines, Die**
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Jarecki Mche. & T. Co., Grand Rapids, Mich.
Thompson Grinder Co., Springfield, Ohio
Wilmarth & Morman Co., Grand Rapids, Mich.

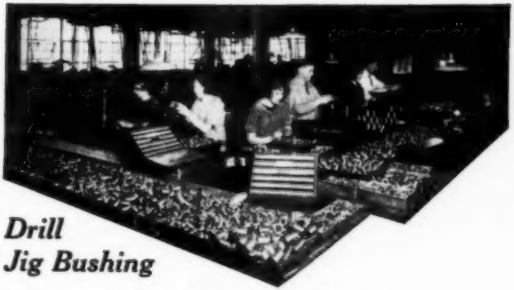
**Grinding Machines, Disc**
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Porter Cable Machine Co., Syracuse, N. Y.

**Grinding Machines, Drill**
Gallmeyer & Livingston Co., Grand Rapids, Mich.
La Salle Tool Co., La Salle, Ill.
Wilmarth & Morman Co., Grand Rapids, Mich.

**Grinding Machines, Face**
Taylor & Fenn Co., Hartford, Conn.

**Grinding Machines, Internal**
Taylor & Fenn Co., Hartford, Conn.
Thompson Grinder Co., Springfield, Ohio
Wilmarth & Morman Co., Grand Rapids, Mich.

**Grinding Machines, Portable Electric**
Bodine Electric Co., 2256 W. Ohio St., Chgo.
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago
Porter-Cable Machine Co., Syracuse, N. Y.
Service Tool, Die & Mfg. Co., 2256 Walnut Street, Chicago.
Stow Flexible Shaft Co., Philadelphia, Pa.
Strand Co., N.A., 5001 N. Lincoln St., Chigo
Wisconsin Electric Co., Racine, Wis.



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**Grinding Machines, Snagging**
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Jarecki Mchc. & T. Co., Grand Rapids, Mich.

**Grinding Machines, Surface**
Gallmeyer & Livingston Co., Grand Rapids, Mich.
La Salle Tool Co., La Salle, Ill.
Thompson Grinder Co., Springfield, Ohio
Wilmarth & Morman Co., Grand Rapids, Mich.

**Grinding Machines, Tap**
Gallmeyer & Livingston Co., Grand Rapids, Mich.

**Grinding Machines, Tool**
Taylor & Fenn Co., Hartford, Conn.

**Grinding Machines, Universal**
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Thompson Grinder Co., Springfield, Ohio
Wilmarth & Morman Co., Grand Rapids, Mich.

**Hack Saw Blades**
Peerless Machine Co., Racine, Wis.

**Hack Saw Machines**
Armstrong-Blum Mfg. Co., 341 N. Francisco Av., Chicago
Peerless Machine Co., Racine, Wis.
Racine Tool & Machine Co., Racine, Wis.

**Hammers, Air**
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

**Hammers, Riveting**
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

**Hardness Testers**
Wilson-Maeulen Co., St. Marys St. & Concord Ave., New York

**Hoists**
Ford Chain Block Co., Philadelphia, Pa.
Thomas Elevator Co., 31 S. Hoyne Ave., Chicago

**Hoists, Portable**
Canton Foundry & Machine Co., Canton, Ohio

**Keyseating Machines**
Burr & Son, John T., Brooklyn, N. Y.
Chattanooga Mchy. Co., Chattanooga, Tenn.
Davis Keyseater Co., Rochester, N. Y.
National Machine Tool Co., Cincinnati
Whitney Mfg. Co., Hartford, Conn.

**Lathes, Bench**
Hardinge Brothers, Inc., 1770 Berteau Ave., Chicago
Monarch Machine Tool Co., Sidney, O.

**Lathes, Engine**
Boye & Emmes Mch. Too Co., Cincinnati, O.
Carroll Mch. Tool Co., A. V., Cincinnati, O.
Carroll & Jamieson Machine Tool Company, Batavia, Ohio
Hardinge Brothers, Inc., 1770 Berteau Ave., Chicago
LeBlond Mch. Tool Co., R.K., Cincinnati, O.
Monarch Machine Tool Co., Sidney, O.
Morris Machine Tool Co., Cincinnati, O.
Mueller Machine Tool Co., Cincinnati, O.
Porter-Cable Machine Co., Syracuse, N. Y.
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Barker Co., Wm., Covington, Ky.

**Lathes, Gap**
Carroll Mch. Tool Co., A. V., Cincinnati, O.

**Lathes, Short Bed**
Monarch Machine Tool Co., Sidney, O.
Porter-Cable Machine Co., Syracuse, N. Y.

**Lathes, Turret**
Monarch Machine Tool Co., Sidney, O.
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**Mandrels, Expanding**
Nicholson & Co., W. H., Wilkes-Barre, Pa.
Western Tool & Mfg. Co., Springfield, O.

**Mandrels, Solid**
Nicholson & Co., W. H., Wilkes-Barre, Pa.

**Milling Attachments**
Burke Machine Tool Co., Conneaut, Ohio
LeBlond Mch. Tool Co., R.K., Cincinnati, O.
Porter-Cable Machine Co., Syracuse, N. Y.
Taylor & Fenn Co., Hartford, Conn.

**Milling Machines, Bench**
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**Milling Machines, Hand**
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**Milling Machines, Plain**
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Gallmeyer & Livingston Co., Grand Rapids, Mich.
LeBlond Mch. Tool Co., R.K., Cincinnati, O.

**Milling Machines, Portable**
Pedrick Tool & Machine Co., Philadelphia

**Milling Machines, Spline**
Taylor & Fenn Co., Hartford, Conn.

**Milling Machines, Universal**
LeBlond Mch. Tool Co., R.K., Cincinnati, O.

**Milling Machines, Vertical**
Burke Machine Tool Co., Conneaut, Ohio
LeBlond Mch. Tool Co., R.K., Cincinnati, O.
Taylor & Fenn Co., Hartford, Conn.

**Mills, Adjustable Hollow**
Genesee Mfg. Co., Rochester, N. Y.

**Motors, Electric**
Reliance Electric & Eng. Co., Cleveland
Wisconsin Electric Co., Racine, Wis.

**Oil Cups**
Gits Bros. Mfg. Co., 1940 S. Kilbourn Av., Chicago
Tucker, W. C. & F. C., Hartford, Conn.

**Oil Extractors**
Tolhurst Machine Works, Troy, N. Y.

**Oil Hole Covers**
Tucker, W. C. & F. C., Hartford, Conn.

**Pattern Shop Machinery**
Towsley Mfg. Co., John T., Cincinnati

**Pins, Leader And Dowel**
Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

**Pipe Bending Machines**
Pedrick Tool & Machine Co., Philadelphia

**Pipe Cutting and Threading Machines**
Signall & Keeler Mch. Wks., Edwardsville, Ill.

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**Planers, Openside**
Cleveland Planer Co., Cleveland, O.

**Planers, Valve Seat, Portable**
Pedrick Tool & Machine Co., Philadelphia

**Polishing and Buffing Machines**
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago
New Britain Machine Co., New Britain, Conn.
Wilmarth & Morman Co., Grand Rapids, Wisconsin Electric Co., Racine, Wis. (Mich.

**Presses, Arbor**
Atlas Press Co., Kalamazoo, Mich.
Lourie Mfg. Co., Springfield, Ill.
Nicholson & Co., W. H., Wilkes-Barre, Pa.
Sheldon Machine Co., 3251 Cottage Grove Ave., Chicago

**Presses, Broaching**
Lourie Mfg. Co., Springfield, Ill.

**Presses, Foot**
Rockford Iron Works, Rockford, Ill.
Taylor & Fenn Co., Hartford, Conn.

**Presses, Power**
Hendley & Whittemore Co., Beloit, Wis.
Loshbough-Jordan T. & M. Co., Elkhart, Ind.
Lourie Mfg. Co., Springfield, Ill.
Rockford Iron Works, Rockford, Ill.

**Presses, Punch**
LaSalle Machine Works, 3013 S. LaSalle St., Chicago
Lewthwaite Mche. Co., T. H., 417 E. 31st., N. Y.
Loshbough-Jordan T. & M. Co., Elkhart, Ind.
Lourie Mfg. Co., Springfield, Ill.
Rockford Iron Works, Rockford, Ill.

**Presses, Screw**
Jarecki Mche. & T. Co., Grand Rapids, Mich.
Lourie Mfg. Co., Springfield, Ill.
Towsley Mfg. Co., John T., Cincinnati

**Pulley Machinery**
Avey Drilling Machine Co., Cincinnati

**Punch Press Feeds**
Rockford Iron Works, Rockford, Ill.

**Punch, Shear and Bender, Hand**
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago

**Punches, Hand**
Armstrong-Blum Mfg. Co., 341 N. Francisco Av., Chicago
Hendley & Whittemore Co., Beloit, Wis.
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Whitney Metal Tool Co., Rockford, Ill.

**Punches, Power**
Hendley & Whittemore Co., Beloit, Wis.

**Punches and Dies**
Hendley & Whittemore Co., Beloit, Wis.
Lewthwaite Mche. Co., T. H., 417 E. 31st., N. Y.
Rockford Iron Works, Rockford, Ill.

**Pyrometers**
Wilson-Maeulen Co., St. Marys St. & Concord Ave., New York

**Racks, Bar Stock**
New Britain Machine Co., New Britain, Conn.

**Reamers**
Cleveland Twist Drill Co., Cleveland, O.

**Reamer Holders**
Nicholson & Co., W. H., Wilkesberre, Pa.

**Reels, Extension**
Cincinnati Specialty Mfg. Co., Cincinnati, O.

**Riveting Machines**
Grant Mfg. & Mche. Co., Bridgeport, Conn.

**Rod Cutters**
Armstrong-Blum Mfg. Co., 341 N. Francisco Av., Chicago
Hendley & Whittemore Co., Beloit, Wis.
Lewthwaite Mche. Co., T. H., 417 E. 31st., N. Y.
Tucker, W. C. & F. C., Hartford, Conn.

**Saw Sharpening Machines**
Wardwell Mfg. Co., Cleveland, O.

**Scraping Machines, Hand & Pneumatic**
Anderson Brothers Mfg. Co., Rockford, Ill.

**Screw Driving Machines, Automatic**
Reynolds Machine Co., Massillon, Ohio

**Screw Machines, Automatic**
New Britain Mche. Co., New Britain, Conn.

**Screw Machines, Hand**
Warner & Swasey Co., Cleveland, O.

**Second-Hand Machinery**
American Tool Works Co., Cincinnati, O.
Auitman & Taylor Mchy. Co., Mansfield, O.
Badger-Packard Mchy. Co., Milwaukee, Wis.
Bath & Co., Cyril J., Cleveland, O.
Bennett Mchy. Co., 50 Church St., New York
Botwinik Brothers, New Haven, Conn.
Brown Machinery Co., St. Louis, Mo.
Brownell Machinery Co., Providence, R. I.
Cincinnati Automatic Mch. Co., Cincinnati
Clark Machinery Co., Cleveland, O.
Co-Operative Machinery Co., Cleveland, O.
Davis, Hoy & Stumpf, 149 Broadway, New York
Delta Equipment Co., Philadelphia, Pa.
Donahue Steel Products Co., 204 N. Jefferson St., Chicago
Eastern Machinery Co., Cincinnati, O.
Eastern Machinery & Equipment Co., Philadelphia, Pa.
Emerman & Co., Louis E., 1761 Eaton Ave., Chicago
Empire Machinery Exchange Company, Inc., Cleveland, Ohio
Easley Machinery Co., E. L., 555 Washington Blvd., Chicago
Fitzsimmons Cole Mchy. Co., Pittsburgh, Pa.
Glasser Mchy. Co., H., 30 S. Clinton, Chicago
Harris Bros. Co., 35th & Iron, Chicago
Hill, Clarke & Co., 649 W. Washington Blvd., Chicago
Holmes Automobile Co., Canton, O.
Hyman & Sons, Joseph, Philadelphia
Johnson & Sons Machinery Co., Wm. C., St. Louis, Mo.
Jones Machine Tool Co., Cincinnati
Keystone Screw Co., Philadelphia, Pa.
Kinsey Co., E. A., Cincinnati, O.
Little Co., W. F., Cleveland
Lucas & Son, J. L., Inc., Bridgeport, Conn.
McCabe Lathe & Machinery Corp., Jr., 149 Broadway, New York
McCoy-Brandt Mchy. Co., Pittsburgh, Pa.
McDonald Machinery Co., St. Louis
McMullen Mchy. Co., Grand Rapids, Mich.
Machine Tools Sales Co., Philadelphia, Pa.
Marr-Galbreath Mchy. Co., Pittsburgh, Pa.
Marshall & Huschart Machinery Co., 17 S. Jefferson St., Chicago
Mid-West Machine Tool & Supply Co., Davenport, Ia.
Molitor Machy. Co., Chas., 118 S. Clinton St., Chicago
Monarch Machinery Co., Philadelphia, Pa.

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Moyer, J. N., Philadelphia, Pa.
National Mchy. Mfg. Co., Inc., St. Louis, Mo.
Nelson Machinery Co., Green Bay, Wis.
Niles-Bement-Pond Co., 111 Broadway, N. Y.
Norton-Broadway Mchy. Co., Cincinnati, O.
O'Brien Machinery Co., Philadelphia
Osborne Mchy. Co., D. M., Cleveland, O.
Osborne & Sexton Machy. Co., Columbus, O.
Oviatt & Co., D. C., Cleveland, O.
Paasman Bros., 766 West Washington Blvd., Chicago
Patterson Tool & Supply Co., Dayton, O.
Pattison Supply Co., W. M., Cleveland, O.
Peninsular Machinery Co., Detroit, Mich.
Randle Machinery Co., Cincinnati
Reeve-Fritts Co., 57 S. Desplaines, Chicago
Reliance Mchy. Sales Co., Pittsburgh, Pa.
Russell Machine Co., Pittsburgh, Pa.
Russel Motor Axle Co., N. Detroit, Mich.
Simmons Machine Tool Corp., Albany, N. Y.
Smith Machinery Co., H. A., Syracuse, N. Y.
Stocker-Rumely-Wacha Co., 117 N. Jefferson St., Chicago
Stoehr Mchy. Co., A. M., 344 N. Wells St., Chicago
Strafer, A. F., 30 Church St., New York
Strong, Carlisle & Hammond Co., Cleveland
Syracuse Supply Co., Syracuse, N. Y.
Tubor, Velick & Co., Inc., Lake & Desplaines Sts., Chicago
Washburn Co., 6126 S. La Salle, Chicago
Wertman, M. A., Cleveland, O.
Winterer, Herman L., Philadelphia
White Machy. Co., A. D., 108 N. Jefferson St., Chicago

**Shafts, Flexible**
Stow Flexible Shaft Co., Philadelphia, Pa.

**Shafts, Steel**
American Hollow Boring Co., Erie, Pa.

**Shaping Machines**
Osborne & Sexton Machy. Co., Columbus, O.
Rhodes Mfg. Co., Hartford, Conn.
Smith & Mills Co., Cincinnati

**Shears, Hand**
Armstrong-Blum Mfg. Co. 341 N. Francisco Av., Chicago
Hendley & Whittemore Co., Beloit, Wis.
Kidder Mfg. Co., J. F. Burlington, Vermont
Lewthwaite Machine Co., T. H., 417 E. 31st St., New York
Tucker, W. C. & F. C., Hartford, Conn.
Whitney Metal Tool Co., Rockford, Ill.

**Shears, Power**
Hendley & Whittemore Co., Beloit, Wis.

**Slotting Machines**
Rhodes Mfg. Co., Hartford, Conn.

**Spacing Washers**
Detroit Stamping Co., Detroit, Mich.

**Spindles, Grinding**
Ex-Cel-O Tool & Mfg. Co., Detroit, Mich.

**Spindles, Air Driven, High Speed**
Ex-Cell-O Tool & Mfg. Co., Detroit, Mich.

**Stools and Chairs, Factory**
Angle Steel Stool Co., Plainwell, Mich.
Chicago Wire Chair Co., 619 N. La Salle St., Chicago

**Straightening Machines**
Towsley Mfg. Co., John T., Cincinnati
Whitney Metal Tool Co., Rockford, Ill.

**Tap Extractors**
Walton Co., Hartford, Conn.

**Tapping Machines and Attachments**
Avey Drilling Machine Co., Cincinnati
Bickwell-Thomas Co., Greenfield, Mass.
Burke Machine Tool Co., Conneaut, Ohio
Leland-Gifford Co., Worcester, Mass.
Whitney Mfg. Co., Hartford, Conn.
Whitney Metal Tool Co., Rockford, Ill.

**Threading Tools**
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

**Tool Holders**
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago
Western Tool & Mfg. Co., Springfield, O.

**Tool Racks**
Chicago Wire Chair Co., 619 N. La Salle St., Chicago

**Tools, Boring**
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

**Tools, Lathe and Planer**
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

**Tools, Machinists'**
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

**Tools, Spot Facing**
Genesee Mfg. Co., Rochester, N. Y.

**Travellers, I-Beam**
Ford Chain Block Co., Philadelphia, Pa.

**Trucks, Machine Shop**
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New Britain Machine Co., New Britain, Conn.
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**Turntables**
Canton Foundry & Machine Co., Canton, O.

**Universal Joints**
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Boston Gear Works Sales Company, Norfolk Downs, Mass.
National Automatic Tool Co., Richmond, Ind.

**Valve Grinders**
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

**Valves**
Powell Co., Wm., Cincinnati

**Vises, Drilling Machine**
Armstrong-Blum Mfg. Co., 341 N. Francisco Av., Chicago
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago
Thomas Elevator Co., 31 S. Hoyne Ave., Chicago

**Vises, Machinists'**
New Britain Machine Co., New Britain, Conn.
Western Tool & Mfg. Co., Springfield, O.

**Wood Working Machinery**
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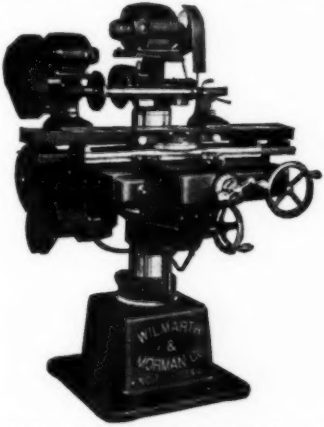


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